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By

KENELM WINSLOW, B.A.S., M.D.

*Formerly Assistant Professor Comparative Therapeutics, Harvard University; Late Surgeon to the Newton Hospital;
Fellow of the Massachusetts Medical Society, etc.*

With the Coöperation of Many Medical
Advising Editors and Special Contributors

IN SIX VOLUMES

*First Aid :: Family Medicines :: Nose, Throat, Lungs,
Eye, and Ear :: Stomach and Bowels :: Tumors and
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1910

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The Home Medical Library

Volume II

**THE EYE AND EAR
THE NOSE, THROAT AND LUNGS
SKIN DISEASES
TUMORS :: RHEUMATISM
HEADACHE :: SEXUAL HYGIENE**

By KENELM WINSLOW, B.A.S., M.D. (Harv.)

Formerly Assistant Professor Comparative Therapeutics, Harvard University; Late Surgeon to the Newton Hospital; Fellow of the Massachusetts Medical Society, etc.

INSANITY

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Part I

**THE EYE AND EAR, THE NOSE
AND THROAT, THE LUNGS
AND BRONCHIAL TUBES,
HEADACHES**

**BY
KENELM WINSLOW**

CHAPTER I

The Eye and Ear

*Injuries to the Eye—Inflammatory Conditions—"Pink Eye"—
Nearsightedness and Farsightedness—Deafness—Remedies for
Earache.*

CINDERS AND OTHER FOREIGN BODIES IN THE EYE.—Foreign bodies are most frequently lodged on the under surface of the upper lid, although the surface of the eyeball and the inner aspect of the lower lid should also be carefully inspected. A drop of a two-per-cent solution of cocaine will render painless the manipulations. The patient should be directed to continue looking downward, and the lashes and edge of the lid are grasped by the forefinger and thumb of the right hand, while a very small pencil is gently pressed against the upper part of the lid, and the lower part is lifted outward and upward against the pencil so that it is turned inside out. The lid may be kept in this position by a little pressure on the lashes, while the cinder, or whatever foreign body it may be, is removed by gently sweeping it off the mucous membrane with a fold of a soft, clean handkerchief.

Hot cinders and pieces of metal may become so deeply lodged in the surface of the eye that it is necessary to dig them out with a needle (which has been

"Black Eye"

passed through a flame to kill the germs on it) after cocaine solution has been dropped into the eye twice at a minute interval. Such a procedure is, of course, appropriate for an oculist, but when it is impossible to secure medical aid for days it can be attempted without much fear, if done carefully, as more harm will result if the offending body is left in place. It is surprising to see what a hole in the surface of the eye will fill up in a few days. If the foreign body has caused a good deal of irritation before its removal, it is best to drop into the eye a solution of boric acid (ten grains to the ounce of water) four times daily.

"BLACK EYE."—To relieve this condition it is first necessary to reduce the swelling. This can be done by applying to the closed lids, every three minutes, little squares of white cotton or linen, four fold and about as large as a silver dollar, which have laid on a cake of ice until thoroughly cold. This treatment is most effective when pursued almost continuously for twenty-four hours. The cold compresses should not be permitted to overlap the nose, or a violent cold in the head may ensue. The swelling having subsided, the discoloration next occupies our attention. This may be removed speedily by applying, more or less constantly below the lower lid, little pieces of flannel dipped in water as hot as can be borne. The cloths must be changed as often as they cool. Repeat this treatment for a half hour every two hours or so during the day.

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STYE.—A sty is a boil on the eyelid; it begins at the root of a hair as a hard swelling which may extend to the whole lid. The tip of the swelling takes on a yellowish color, breaks down and discharges "matter" or pus. There is pain and a feeling of tension in the lid, and, very rarely, some fever. When one sty follows another it is well to have the eyes examined by an oculist, as eye-strain is often an inviting cause of the trouble, and this can be corrected by the use of glasses. Otherwise the patient is probably "run down" from chronic constipation and anæmia (poverty of the blood) and other causes, and needs a change of air, tonics, and exercise out of doors. In a depreciated condition, rubbing the lids causes introduction of disease germs.

The immediate treatment, which may cut short the trouble, consists in bathing the eyelid for fifteen minutes at a time, every hour, with a hot solution of boric acid (half a teaspoonful to the cup of water). Then at night the swelling should be painted with collodion, several coats, being careful not to get it in the eye, as it would cause much smarting. If the sty persists in progressing, bathing it in hot water will cause it to discharge pus and terminate much sooner.

TWITCHING OF THE EYELIDS.—This condition may be due to eye-strain, and can be relieved if the eyes are fitted to glasses by an oculist (not an optician). It is frequently an accompaniment of inflammation of the eyes, and when this is cured the

Sore Eyes

twitching of the lids disappears. When the eyes are otherwise normal the twitching is frequently one of the signs of nerve fag and overwork.

WOUNDS AND BURNS ABOUT THE EYES.

—Slight wounds of the inner surface of the eyelids close readily without stitching if the boric-acid solution (ten grains to the ounce of water) is dropped into the eye four times daily. Burns of the inner surface of the lids follow the entrance of hot water, hot ashes, lime, acids, and molten metals. Burns produced by lime are treated by dropping a solution of vinegar (one part of vinegar to four of water) into the eye, while those caused by acids are relieved by similar treatment with limewater or solution of baking soda (half a teaspoonful to the glass of water). If these remedies are not at hand, the essential object is attained by washing the eye with a strong current of water, as from a hose or faucet. If there is much swelling of the lids, and inflammation after the accident, drop boric-acid solution into the eye four times daily. Treatment by cold compresses, as recommended for "black eye," will do much also to quiet the irritation, and the patient should wear dark glasses.

SORE EYES; CONJUNCTIVITIS.—The mucous membrane lining the inner surface of the eyelids also covers the front of the eyeball, although so transparent here that it is not apparent to the observer. Inflammation of this membrane is more commonly limited to that portion covering the inner surfaces of the

lids, but may extend to the eyeball when the eye becomes "bloodshot" and the condition more serious. For the sake of convenience we may speak of a mild form of sore eye, as *congestion of the eyelids*, and the more severe type, as true *conjunctivitis* (see p. 18).

CONGESTION OF THE EYELIDS.—This may be caused by smoke or dust in the atmosphere, by other foreign bodies in the eye; frequently by eye-strain, due to far- or near-sightedness, astigmatism, or muscular weakness, which may be corrected by an oculist's (never an optician's) prescription for glasses. Exposure to an excessive glare of light, as in the case of firemen, or, on the other hand, reading constantly and often in a poor light, will induce irritation of the lids. The germs which cause "cold in the head" often find their way into the eyes through the tear ducts, which connect the inner corner of the eyes with the nose, and thus may set up similar trouble in the eyes.

Symptoms.—The eyes feel weary and "as if there were sand in them." There may be also smarting, burning, or itching of the lids, and there is disinclination for any prolonged use of the eyes. The lids, when examined, are found to be much deeper red than usual, and slightly swollen, but there is no discharge from the eye, and this fact serves to distinguish this mild type of inflammation from the more severe form.

Treatment.—The use of dark glasses and a few drops of zinc-sulphate solution (one grain to the ounce of water) in the eye, three times daily, will often cure

Conjunctivitis

the trouble. If this does not do so within a few days then an oculist should be consulted, and it will frequently be found that glasses are needed to secure freedom from irritation of the eyes. In using "eye-drops" the head should be held back, and several drops be squeezed from a medicine dropper into the inner corner of the eye.

CONJUNCTIVITIS; CATARRHAL INFLAMMATION OF THE EYES.—In this disorder there is discharge which sticks the lids together during the night. The inner surface of the lids is much reddened, the blood vessels in the lining membrane are much enlarged, and the lids are slightly swollen. The redness may extend to the eyeball and give it a bloodshot appearance. There is no interference with sight other than momentary blurring caused by the discharge, and occasionally there is very severe pain, as if a cinder had suddenly fallen in the eye. This symptom may occur at night and awaken the patient, and may be the reason for his first consulting a physician.

One eye is commonly attacked twenty-four to thirty-six hours before the other, and even if it is thought that the cause is a cinder, in case of one eye, it can hardly be possible to sustain this belief in the case of the involvement of both eyes. There is a feeling of discomfort about the eyes, and often a burning, and constant watering, the tears containing flakes of white discharge.

When the discharge is a copious, creamy pus or

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“matter,” associated with great swelling of the lids and pain on exposure to light, the cause is usually a germ of a special disease, and the eyesight will very probably be lost unless a skillful physician be immediately secured. Early treatment is, however, of great service, and, until a physician can be obtained, the treatment recommended below should be followed conscientiously; by this means the sight may be saved. This dangerous variety of inflammation of the eyes is not rare in the newborn, and infants having red eyes within a few days of birth should immediately receive proper attention, or blindness for life will be the issue. This is the usual source of that form of blindness with which babies are commonly said to have been born.

All forms of severe inflammation of the lids are contagious, especially the variety last considered, and can be conveyed, by means of the discharge, through the agency of towels, handkerchiefs, soap, wash basins, etc., and produce the same or sometimes different types of inflammation in healthy eyes. Therefore, if the severe form of conjunctivitis breaks out among any large number of people, as in schools, prisons, asylums, and almshouses, isolation of the patients should be enforced.

“PINK EYE.”—This is a severe epidemic form of catarrh of the eye, which is caused by a special germ known as the “Koch-Weeks bacillus.” The treatment of this is the same as that outlined below. The germ of pneumonia and that of grippe also often cause con-

"Pink Eye"

junctivitis, and "catching cold," chronic nasal catarrh, exposure to foul vapors and gases, or tobacco smoke, and the other causes enumerated, as leading to congestion of the lids, are also responsible for catarrhal inflammation of the eye.

Treatment.—In the milder attacks of conjunctivitis the treatment should be that recommended above for congestion of the lids. The swelling and inflammation, in the severer types, are greatly relieved by the application of the cold-water compresses, advised under the section on "black eye," for an hour at a time, thrice daily. Confinement in a dark room, or the use of dark glasses, and drops of zinc sulphate (one grain in an ounce of water) three times a day, with hourly dropping of boric acid (ten grains to the ounce of water) constitute the ordinary treatment.

In inflammations with copious discharge of creamy pus, and great swelling of the lids, the eyes should be washed out with the boric-acid solution every half hour, and a solution of silver nitrate (two grains to the ounce of water) dropped into the eye, once daily, followed immediately by a weak solution of common salt in water to neutralize the nitrate of silver, after its action has been secured. The constant use of ice cloths, already mentioned, forms a necessary adjunct to treatment. The sound eye must be protected from the chance of contagion, arising from a possible infection from the pus discharging from its mate. This may be secured by bandaging the well eye, or, better,

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by covering it with a watch crystal kept in place by surgeon's plaster.

In treating sore eyes with discharge, in babies, the infant should be held in the lap with its head backward and inclined toward the side of the sore eye, so that in washing the eye no discharge will flow into the sound eye. The boric acid may then be dropped from a medicine dropper, or applied upon a little wad of absorbent cotton, to the inner corner of the eye, while the eyelids are held apart.

Hemorrhages occurring under the conjunctiva (or membrane lining the inner surface of the lids and covering the front surface of the eyeball) may be caused by blows or other injury to the eye, by violent coughing, by straining, etc. Dark-red spots may appear in the white of the eyeball, slightly raised above the surface, which are little blood clots under the conjunctival membrane. No special trouble results and there is nothing to be done except to wait till the blood is absorbed, which will happen in time. If the eyes water, solution of zinc sulphate (one grain to the ounce of water) may be dropped into the eye, twice daily. Hot applications are beneficial here to promote absorption of the clot.

EYE-STRAIN.—Eye-strain is commonly due to either astigmatism, nearsightedness, farsightedness, or weakness of the eye muscles. The farsighted eye is one in which parallel rays entering the eye, as from a distance, come to a focus behind the retina. The

Eye-strain

retina is the sensitive area for receiving light impressions in the back of the eyeball. Sight is really a brain function; one sees with the brain, since the optic nerve endings in the back of the eye merely carry light impressions to the brain where they are properly interpreted.

In order that vision be clear and perfect, it is essential that the rays of light entering the eye be bent so that they strike the retina as a single point. In the farsighted or hyperopic eye, the eyeball is usually too short for the rays to be properly focused on the sensitive nerve area in the back of the eye.

This defect in vision is, however, overcome by the act of "accommodation." There is a beautiful transparent, double-convex body, about one-third of an inch thick, which looks very much like an ordinary glass lens, and is situated in the eye just back of the pupil. This is what is known as the crystalline lens, and the rays of light are bent in passing through it so as to be properly focused on the retina.

The foregoing statements have been made as though objects were always at a distance from the eye, so that the rays of light coming from them were almost parallel. Yet when one is looking at an object within a few inches of the eye the rays diverge or spread out, and these the normal eye (if rigid) could not focus on the retina—much less the farsighted eye. But the eye is adaptable to change of focus through the action of a certain muscle, situated within the eyeball about the

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lens, which controls to a considerable extent the shape of the lens. When the muscle contracts it allows the lens to bulge forward by virtue of its elasticity, and, therefore, become more convex. This is what happens when one looks at near objects, the increased convexity of the lens bending the rays of light so that they will focus as a point on the retina. (See Plate I, p. 30.)

Now in the farsighted eye this muscular control or "accommodative action" must be continually exercised even in looking at distant objects, and it is this constant attempt of nature to cure an optical defect of the eye which frequently leads to nervous exhaustion or eye-strain. The nerve centers, which animate and control the nerves supplying the eye muscles to which we have just alluded, are in close proximity to other most important nerve centers in the brain, so irritation of the eye centers will produce sympathetic irritation of these other centers, leading to manifold and complex symptoms which we will describe under this head. But these symptoms do not necessarily develop in everyone having farsightedness or astigmatism, since both are often present at birth.

The power of accommodation is sufficient to overcome the optical defect of the eye, providing that the general health is good and the eye is not used much for near work. If, on the other hand, excessive use of the eyes in reading, writing, figuring, sewing, or other fine work is required, and especially if the health becomes impaired, it happens that the constant drain on

Eye-strain

the eye center in the brain will result in a group of symptoms which we will consider later. Failure of accommodation comes on at about forty, and gradually increases until all accommodation is lost at the age of seventy-five.

For this reason it is necessary for persons over forty-five years of age, having normal or farsighted eyes, to wear convex glasses in reading or doing near work, and these should be changed for stronger ones every year or two. These convex glasses save the eyes in their attempt to make the lens more convex when looking at near objects in farsightedness, and also prove serviceable in the same manner when accommodation begins to fail in the case of what is called "old sight." The neglect to provide proper glasses for reading any time after the age of forty-five, and the failure to replace them by stronger lenses when required, distinctly favor the occurrence of cataract in later life.

In the act of accommodation, in addition to the muscular action by which the lens is made more convex, there is the tendency for the action of another group of muscles outside the eyeball, which turn the eyes inward when they are directed toward a near object. Here then is another source of trouble resulting from farsightedness, i. e., the not infrequent occurrence of inward "squint" occasioned by the constant use of the muscles pulling the eyes inward during accommodation for near objects. Again, inflammation of the eyelids, and sometimes of deeper parts of the

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eyeball, follows untreated hyperopia. Early distaste for reading is often acquired by farsighted persons, owing to the strain on the accommodative apparatus. The convex lens is that used to correct farsightedness.

NEARSIGHTED EYE.—In the nearsighted eye the eyeball is too long for parallel rays entering the eye to be focused upon the retina; they are bent, instead, to a point in front of the retina, and then diverge making the vision blurred. (Plate I, p. 30.) The act of accommodation in making the lens more convex will not aid this condition, but only make it worse, so that it is not attempted.

Eye-strain in this optical defect is brought on by constant use of the eye muscles (attached to the outside of the eyeball) in directing both eyes inward so that they will both center on near objects; the only ones which can be seen. Outward squint frequently results, because the muscular efforts required to direct both eyes equally inward to see near objects are so great that the use of both eyes together is given up, and the poorer eye is not used and squints outward, while the better eye is turned inward in the endeavor to see. Nearsighted persons are apt to stoop, owing to the habitual necessity for coming close to the object looked at. Their facial expression is also likely to be rather vacant, since they do not distinctly see, and do not respond to the facial movements of others.

Nearsightedness, or myopia, is not a congenital defect, but is usually acquired owing to excessive near

Astigmatism

work which requires that the eye muscles constantly direct both eyes inward to see near objects. In so acting the muscles compress the sides of the eyeballs and tend to increase their length, interfere with their nutrition, and aggravate the condition when it is once begun. (See Diagram.) Concave lenses are used to correct myopia, and they must be worn all the time.

ASTIGMATISM.—This is a condition caused by inequality of the outer surface of the front of the eyeball, and rarely by a similar defect in the surfaces of the lens. The curvature of the eyeball in the astigmatic eye is greater in one meridian than in the opposite. In other words, the front of the eyeball is not regularly spherical, but bulges out along a certain line or meridian, while the curvature is flattened or normal in the other meridian. For instance, if two imaginary lines were drawn, one vertically, and the other horizontally across the front of the eyeball intersecting in the center of the pupil, they would represent the principal meridians, the vertical and the horizontal. As a rule the meridian of greatest curvature is approximately vertical, and that of least curvature is at right angles to it, or horizontal.

Rays of light in passing through the different meridians of the astigmatic eye are differently bent, so that in one of the principal meridians rays may focus perfectly on the retina, while in the other the rays may focus on a point behind the retinal field. In this case the eye is made farsighted or hyperopic

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in one meridian, and is normal in the other. Or again, the rays may be focused in front of the retina in one meridian, and directly on the retina in the other; this would be an example of nearsighted or myopic astigmatism. Farsightedness and nearsightedness are then both caused by astigmatism, although in this case not by the length of the eyeball, but by inequality in the curvature of the front part (cornea) of the eyeball. For example, in simple astigmatism one of the principal meridians is hyperopic (turning the rays so that they focus behind the retina) or myopic (bending the rays so that they focus in front of the retina), while the other meridian is normal. In mixed astigmatism, one of the principal meridians is myopic, the other hyperopic; in compound astigmatism the principal meridians are both myopic, or both hyperopic, but differ in degree; while in irregular astigmatism, rays of light passing through different parts of the outer surface of the eyeball are turned in so many various directions that they can never be brought to a perfect focus by glasses.

It is not by any means possible for a layman to be able always to inform himself that he is astigmatic, unless the defect is considerable. If a card, on which are heavy black lines of equal size and radiating from a common center like the spokes of a wheel, be placed on a wall in good light, it will appear to the astigmatic eye as if certain lines (which are in the faulty meridian of the eyeball) are much blurred, while the lines at

Weakness of the Eye Muscles

right angles to these are clear and distinct. Each eye should be tested separately, the other being closed. The chart should be viewed from a distance as great as any part of it can be seen distinctly. All the lines on the test card should look equally black and clear to the normal eye.

Astigmatism is corrected by a cylindrical lens, which is in fact a segment of a solid cylinder of glass. The axis of the cylindrical lens should be at right angles to the defective meridian of the eye, in order to correct the astigmatism. Eye-strain is caused by astigmatism in the same manner that it is brought about in the simple farsighted eye, i. e., by constant strain on the ciliary muscle, which regulates the convexity of the crystalline lens. For it is possible for the inequalities of the front surface of the eyeball or of the lens to be offset or counterbalanced by change in the convexity of the lens produced by the action of this muscle, and it is conceivable that the axis of the lens may be tilted one way or another by the same agency, and for the same purpose. But, as we have already pointed out, this continual muscular action entails great strain on the nerve centers which animate the muscle, and if constant near work is requisite, or the health is impaired, the nervous exhaustion becomes apparent. The lesser degrees of astigmatism often give more trouble than the greater.

WEAKNESS OF THE EYE MUSCLES.—

There are six muscles attached to the outside of the

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eyeball which pull it in various directions, and so enable each eye to be directed upon a common point, otherwise objects will appear double. Weakness of these muscles or insufficiency, especially of those required to direct the eyes inward for near work, may lead to symptoms of eye-strain. When reading, for example, the muscles which pull the eye inward soon grow tired and relax, allowing the opposing muscles to pull the eye outward so that the eyes are no longer directed toward a common point, and two images may be perceived or, more frequently, they become fused together producing a general blurring on the page. Then by a new effort of will the internal muscles pull the eyes into line again, only to have the performance repeated, all of which entails a great strain upon the nervous system, and may lead to permanent squint, as has been pointed out. In addition to these symptoms caused by weakness of the eye muscles—seeing double, blurred vision, and want of endurance for close work—there are others which are common to eye-strain in general, as headache, nausea, etc., described in the following paragraph.

Symptoms of Eye-strain.—Headache is the most frequent symptom. It may be about the eyes, but there is no special characteristic which will positively enable one to know an eye headache from that arising from other sources, although eye-strain is probably the most common cause of headache. The headache resulting from eye-strain may then be in the forehead, temples,

[Text continued on page 31.]

Plate I
ANATOMY OF THE EYE

The upper illustration shows the six muscles attached to the eye. The **Superior Rectus Muscle** pulls and directs the eye upward; the **Inferior Rectus**, downward; the **External** and **Internal Rectus Muscles** pull the eye to the right and left; the **Oblique Muscles** move the eye slantwise in any direction.

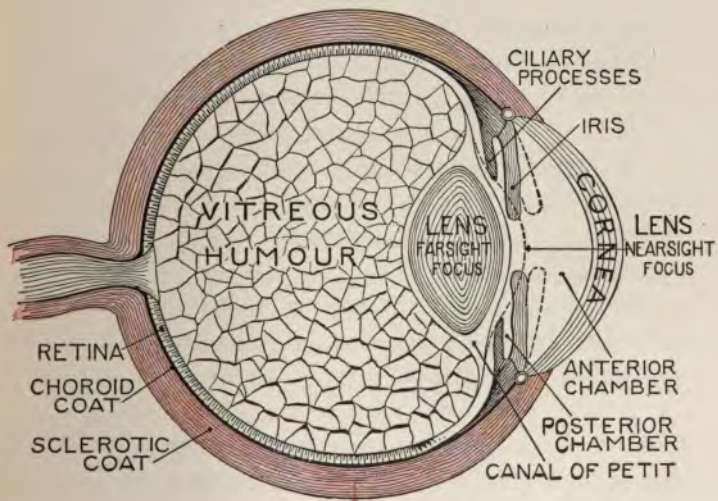
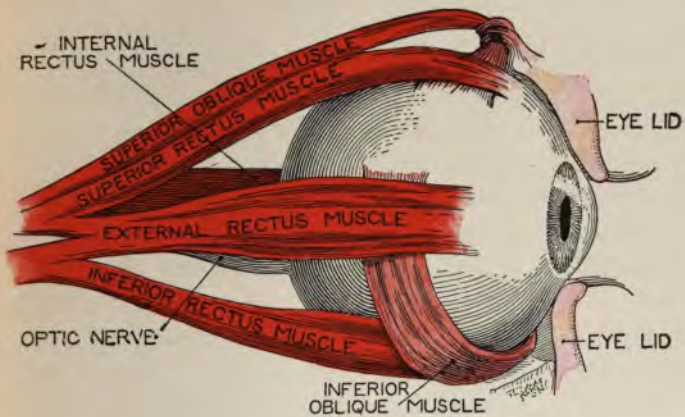
Lack of balance of these muscles, and especially inability to focus both eyes on a near object without effort, constitute "eye-strain."

The lower cut illustrates the relation of the crystalline lens to sight. **Lens Nearsight Focus** shows the lens bulging forward and very convex; **Lens Farsight Focus** shows it flat and less convex.

This adjustment of the shape of the crystalline lens is called "accommodation"; it is effected by a small muscle in the eyeball.

In the normal eye, the rays of light from an object pass through the lens, adjusted for the proper distance, and focus on the retina.

In the nearsighted eye, these rays focus at a point in front of the retina; while in the farsighted eye these rays focus behind the retina; the nearsighted eye being elongated, and the farsighted eye being shortened.



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top or the back of the head, or limited to one side. It frequently takes the form of "sick headache" (p. 113). It is perhaps more apt to appear after any unusual use of the eyes in reading, writing, sewing, riding, shopping, or sight-seeing, and going to theaters and picture galleries, but this is not by any means invariably the case, as eye headache may appear without apparent cause.

Nausea and vomiting, with or without headache, nervousness, sleeplessness, and dizziness often accompany eye-strain. Sometimes there is weakness of the eyes, i. e., lack of endurance for eye work, twitching of the eyelids, weeping, styes, and inflammation of the lids. In view of the extreme frequency of eye-disorders which lead to eye-strain, it behooves people, in the words of an eminent medical writer, to recognize that "the subtle influence of eye-strain upon character is of enormous importance" inasmuch as "the disposition may be warped, injured, and wrecked," especially in the young. Some of the more serious nervous diseases, as nervous exhaustion, convulsions, hysteria, and St. Vitus's dance may be caused by the reflex irritation of the central nervous system following eye-strain.

Treatment of Eye-strain.—The essential treatment of eye-strain consists in the wearing of proper glasses. It should be a rule, without any exception, to consult only a regular and competent oculist, and never an optician, for the selection of glasses. It is as egregious

Weakness of the Eye Muscles

a piece of folly to employ an optician to choose the glasses as it would be to seek an apothecary's advice in a general illness. Considerably more damage would probably accrue from following the optician's prescription than that of the apothecary, because nature would soon offset the effects of an inappropriate drug; but the damage to the eyes from wearing improper glasses would be lasting.

Properly to determine the optical error in astigmatic and farsighted eyes it is essential to place drops in the eye, which dilate the pupil and paralyze the muscles that control the convexity of the crystalline lens, and to use instruments and methods of examination, which can only be properly undertaken and interpreted by one with the general and special medical training possessed by an oculist.

The statement has been emphasized that farsighted and astigmatic persons, up to the age of forty-five or fifty, can sometimes overcome the optical defects in their eyes by exercise of the ciliary muscle which alters the shape of the lens, and, therefore, it would be impossible for an examiner to discover the fault without putting drops in the eye, which temporarily paralyze the ciliary muscles for from thirty-six to forty-eight hours, but otherwise do no harm. After the age of fifty it may be unnecessary to use drops, as the muscular power to alter the convexity of the lens is greatly diminished. Opticians are incompetent to employ these drops, as they may do great damage in certain con-

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ditions of the eye which can only be detected by a medical man specially trained for such work. Opticians are thus sure to be caught on one of the horns of a dilemma; either they do not use drops to paralyze the ciliary muscle, or, if they do employ the drops, they may do irreparable damage to the eye. Any abnormality connected with the vision, especially in children, should be a warning to consult an oculist. Squint, "cross-eye" (*Strabismus*), as has been stated, may often result from near- or far-sightedness, and it may be possible in young children to cure the squint by the use of glasses or even drops in the eye, whereas in later life it may be necessary to cut some of the muscles of the eyeball to correct the condition. It is a wise rule to subject every child to an oculist's examination before entering upon school life.

DEAFNESS.—Sudden deafness without apparent reason is more apt to result from an accumulation of wax than from any other cause. It is a very common ear disorder. The opening into the ear is about an inch long, or a little more, and is separated from that part of the ear within, which is known as the middle ear, by the eardrum membrane. The drum membrane is a thin, skinlike membrane stretched tightly across the bottom of the external opening in the ear or auditory canal, and shuts it off completely from the middle ear within, and in this way protects the middle ear from the entrance of germs, dust, and water, but only secondarily aids hearing. The obstruction caused by

Deafness

wax usually exists in about the middle of the auditory canal or opening in the ear, and only causes deafness when it completely blocks this passage.

The deafness is sudden because, owing to the accidental entrance of water, the wax quickly swells and chokes the canal; or, in attempts to relieve irritation in the ear, the finger or some other object is thrust into the opening in the ear (auditory canal) and presses the wax down on the ear drum. The obstruction in the ear is usually a mixture of waxy secretion from the canal, and little scales of dead skin which become matted together in unwise efforts at cleansing the ear by introducing a twisted towel or some other object into the ear passage and there turning it about; or it may occur owing to disease of the ear altering the character of the natural secretion. In the normal state, the purpose of the wax is, apparently, to repel insects and to glue together the little flakes of cast-off skin in the auditory canal, and these, catching on the hairs lining the canal, are thrown out of the ears upon the shoulders by the motion of the jaws in eating.

Nothing should be introduced into the ear with the idea of cleansing it, as the skin growing more rapidly from within tends naturally to push the dead portions out as required, and so the canal is self-cleansing.

Symptoms.—Sudden deafness in one ear usually calls the attention of the patient to an accumulation of wax. There is apt to be more or less wax in the other ear as well. Noises in the deaf ear and a feeling of

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pressure are also common. Among rarer symptoms are nausea and dizziness. But the only way to be sure that deafness is due to choking of the ear passage with wax is to see it. This is usually accomplished by a physician in the following way: he throws a good light from a mirror into a small tube introduced into the ear passage. This is, of course, impossible for laymen to do, but if the ear is drawn upward, backward, and outward, so as to straighten the canal, it may be possible for anyone to see a mass of yellowish-brown or blackish material filling the passage. And in any event, if the wax cannot be seen, one is justified in treating the case as if it were present, if sudden deafness has occurred and competent medical aid is unobtainable, since no harm will be done if wax is absent, and, if it is present, the escape of wax will usually give immediate relief from the deafness and other symptoms.

Treatment.—The wax is to be removed with a syringe and water as hot as can be comfortably borne. A hard-rubber syringe having a piston, and holding from two teaspoonfuls to two tablespoonfuls, is to be employed—the larger ones are better. The clothing should be protected from water by towels placed over the shoulder, and a basin is held under the ear to catch the water flowing out of the canal. The tip of the syringe is introduced just within the entrance of the ear, which is to be pulled backward and upward, and the stream of water directed with some force against

Persistent and Chronic Deafness

the upper and back wall of the passage rather than directly down upon the wax. The water which is first returned is discolored, and then, on repeated syringing, little flakes of dry skin, with perhaps some wax adhering, may be seen floating on the top of the water which flows from the ear, and finally, after a longer or shorter period, a plug of wax becomes dislodged, and the whole trouble is over.

This is the rule, but sometimes the process is very long and tedious, only a little coming away at a time, and, rarely, dizziness and faintness will require the patient to lie down for a while. The water should always be removed from the ear after syringing by twisting a small wisp of absorbent cotton about the end of a small stick, as a toothpick, which has been dipped into water to make the cotton adhere. The tip of the toothpick, thus being thoroughly protected by dry cotton applied so tightly that there is no danger of it slipping off, while the ear is pulled backward and upward to straighten the canal, is gently pushed into the bottom of the canal and removed, and the process repeated with fresh cotton until it no longer returns moist. Finally a pledget of dry cotton should be loosely packed into the ear passage, and worn by the patient for twelve or twenty-four hours.

PERSISTENT AND CHRONIC DEAFNESS.—

A consideration of deafness requires some understanding of the structure and relations of the ear with other parts of the body, notably the throat. It has been

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pointed out that the external ear—comprising the fleshy portion of the ear, or auricle, and the opening, or canal, about an inch long—is separated from that portion of the ear within (or middle ear) by the drum membrane. The middle ear, while protected from the outer air by the drum, is really a part of the upper air passages, and participates in disorders affecting them. It is the important part of the ear as it is the seat of most ear troubles, and disease of the middle ear not only endangers the hearing, but threatens life through proximity to the brain.

In the middle ear we have an air space connected with the throat by the Eustachian tube, a tube about an inch long running downward and forward to join the upper air passage at the junction of the back of the nose and upper part of the throat. If one should run the finger along the roof of the mouth and then hook it up behind and above the soft palate one could feel the openings of these tubes (one for each ear) on either side of the top of the throat or back of the nose, according to the view we take of it.

Then the middle ear is also connected with a cavity in the bone back of the ear (mastoid cavity or cells), and the outer and lower wall is formed by the drum membrane. Vibrations started by sound waves which strike the ear are connected by means of a chain of three little bones from the drum through the middle ear to the nervous apparatus in the internal ear. The head of one of these little bones may be seen by an

Persistent and Chronic Deafness

expert, looking into the ear, pressing against the inside of the drum membrane. Stiffening or immovability of the joints between these little bones, from catarrh of the middle ear, is most important in producing permanent deafness. The middle ear space is lined with mucous membrane continuous with that of the throat through the Eustachian tube. This serves to drain mucus from the middle ear, and also to equalize the air pressure on the eardrum so that the pressure within the middle ear shall be the same as that without.

When there is catarrh or inflammation of the throat or nose it is apt to extend up the Eustachian tubes and involve the middle ear. In this way the tubes become choked and obstructed with the oversecretion or by swelling. The air in the middle ear then becomes absorbed in part, and a species of vacuum is produced with increased pressure from without on the eardrum. The drum membrane will be pressed in, and through the little bones pressure will be made against the sensitive nervous apparatus, irritating it and giving rise to deafness, dizziness, and the sensation of noises in the ear. Noises from without will also be intensified in passing through the middle ear when it is converted into a closed cavity through the blocking of the Eustachian tube.

A very important feature following obstruction of the Eustachian tubes, and rarefaction of the air in the middle ear, is that congestion of the blood vessels ensues and increased secretion, because the usual pres-

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sure of the air on the blood vessels within the middle ear is taken away.

This then is the cause of most permanent deafness, to which is given the name catarrhal deafness, because every fresh cold in the head, or sore throat, tends to start up trouble in the ear such as we have just described. Repeated attacks leave vestiges behind until permanent deafness remains. In normal conditions every act of swallowing opens the apertures of the Eustachian tubes in the throat, and allows of equalization of the air pressure within and without the eardrum, but if the nose is stopped up by a cold in the head, or enlargement of the tonsil at the back of the nose (as from adenoids, see p. 61), the process is reversed and air is exhausted from the Eustachian tubes with each swallowing motion.

The moral to be drawn from all the foregoing is to treat colds properly when they are present, keeping the nose and throat clean and clear of mucus, and to have any abnormal obstruction in the nose or throat and source of chronic catarrh removed, as enlarged tonsils, adenoids, and nasal outgrowths.

FOREIGN BODIES IN THE EAR.—Foreign bodies, as buttons, pebbles, beans, cherry stones, coffee, etc., are frequently placed in the ear by children, and insects sometimes find their way into the ear passage and create tremendous distress by their struggles. Smooth, nonirritating bodies, as buttons, pebbles, etc., do no particular harm for a long time, and may remain

Earache

unnoticed for years. But the most serious damage not infrequently results from unskillful attempts at their removal by persons (even physicians unused to instrumental work on the ear) who are driven to immediate and violent action on the false supposition that instant interference is called for. Insects, it is true, should be killed without delay by dropping into the ear sweet oil, castor, linseed, or machine oil or glycerin, or even water, if the others are not at hand, and then the insect should be removed in half an hour by syringing as recommended for wax (p. 35).

To remove solid bodies, turn the ear containing the body, downward, pull it outward and backward, and rub the skin just in front of the opening into the ear with the other hand, and the object may fall out.

Failing in this, syringing with warm water, as for removal of wax, while the patient is sitting, may prove successful. The essentials of treatment then consist, first, in keeping cool; then in killing insects by dropping oil or water into the ear, and, if syringing proves ineffective, in using no instrumental methods in an attempt to remove the foreign body, but in awaiting such time as skilled medical services can be obtained. If beans or seeds are not washed out by syringing, the water may cause them to swell and produce pain. To obviate this, drop glycerin in the ear which absorbs water, and will thus shrivel the seed.

EARACHE.—Earache is due usually not to neuralgia of the ear, but to a true inflammation of the

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middle ear, which either subsides or results in the accumulation of inflammatory products until the drum is ruptured and discharge occurs from the external canal. The trouble commonly originates from an extension of catarrhal disease of the nose or throat; the germs which are responsible for these disorders finding their way into the Eustachian tubes, and thus into the middle ear. Any source of chronic catarrh of the nose or throat, as enlarged and diseased tonsils, adenoids in children, or nasal obstruction, favor the growth of germs and the occurrence of frequent attacks of acute catarrh or "colds." The grippe has been the most fruitful cause of middle-ear inflammation and earache in recent years. Any act which forces up fluid or secretions from the back of the nose into the Eustachian tubes (see section on Deafness) and thus into the middle ear, is apt to set up inflammation there, either through the introduction of germs, or owing to the mechanical injury sustained. Thus the use of the nasal douche, the act of sniffing water into the nose, or blowing the nose violently when there is secretion or fluid in the back of the nose, or the employment of the post-nasal syringe are one and all attended with this danger. Swimming on the back, diving, or surf bathing also endangers the ear, as cold water is forcibly driven not only into the external auditory canal, but, what is more frequently a source of damage, into the Eustachian tubes through the medium of the nose or throat. In this case the plugging

Earache

of the nose with cotton would be of more value than the external canal, as is commonly practiced. If water has entered the Eustachian tube, blowing the nose and choking merely aggravate the trouble. The wiser plan is to do nothing but trust that the water will drain out, and if pain ensues treat it as recommended below for earache.

Water in the ears is sometimes removed by jumping about on one foot with the troublesome ear held downward, and if it is in the external canal it may be wiped out gently with cotton on the end of a match, as recommended in the article on treating wax in the ear (see p. 35). In the treatment of catarrh in the nose or throat only a spray from an atomizer should be used, as Dobell's or Seiler's solutions followed by menthol and camphor, twenty grains of each to the ounce of alboline or liquid vaseline.¹

Exposure to cold and the common eruptive diseases of children, as scarlet fever, measles, and also diphtheria, are common causes of middle-ear inflammation. In the latter disorders the protection afforded by a nightcap which comes down over the ears, and worn constantly during the illness, is frequently sufficient to ward off ear complications.

Although earache or middle-ear inflammation is common, its dangers are not fully appreciated, since the various complications are likely to arise, and the result is not rarely serious. Extension of the in-

¹ See p. 49.

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flammation to the bone behind the ear may necessitate chiseling away a part of the skull to liberate pus or dead bone in this locality, and the occurrence of abscess of the brain will necessitate operation.

The use of leeches in the beginning of the attack is of great value, and though unpleasant are not difficult or painful in their application. One should be applied just in front of the opening into the ear (which should be previously closed with cotton to prevent the entrance of the leech), and the other behind the ear in the crease where it joins the side of the head and at a point a little below the level of the external opening into the ear. A drop of milk on these spots will often start the leeches immediately at work, or a drop of blood obtained with a pin prick. When the leeches are gorged with blood and cease to suck, they should be removed and bleeding encouraged for half an hour with applications of absorbent cotton dipped in hot water. Then clean, dry absorbent cotton is applied, and pressure made on the wounds if bleeding does not soon stop or is excessive.

The after treatment of the bites consists in cleanliness and the use of vaseline. The patient must stay in bed, and the hot-water bag be constantly kept on the ear till all pain ceases. If the drum perforates, a discharge will usually appear from the external ear. Then the canal must be cleansed, once or more daily, by injecting very gently into the ear a solution of boric

Earache

acid (as much of boric acid as the water will dissolve), following this by wiping the water out of the canal with sterilized cotton, as directed for the treatment of wax in the ear (p. 35).

The syringing is permissible only once daily, unless the discharge is copious, but the canal may be wiped out in this manner several times a day with dry cotton. It is well to keep the opening into the ear greased with vaseline, and a plug of clean absorbent cotton loosely packed into the canal to keep out the cold. Excessive or too forcible syringing may bring about that complication most to be feared, although it may appear through no fault in care, i. e., an implication of the cavity in the bone back of the ear (mastoid disease). Germs find their way through the connecting passage by which this cavity is in touch with the middle ear, or may be forced in by violent syringing. When this happens, earache, or pain just back of the ear, commonly returns during the first or second week after the first attack, and tenderness may be observed on pressing on the bone just back of the ear close to the canal. Fever, and local redness and swelling of the parts over the bone in this region may also occur. Confinement to bed, and constant application of a rubber bag containing cracked ice, to the painful parts must be enforced. If the tenderness on pressure over the bone and pain do not subside within twenty-four to forty-eight hours, surgical assistance must be obtained at any cost, or a fatal result may ensue. The

opening in the drum membrane, caused by escape of discharge in the course of middle-ear inflammation, usually closes, but even if it does not deafness is not a necessary sequence.

The eardrum is not absolutely essential to hearing, but it is of great importance to exclude sources of irritation, dust, water, and germs which are likely to set up middle-ear trouble. More ordinary after-effects are chronic discharge from the ear following acute inflammation and perforation of the eardrum, which may mean at any time a sudden return of pain with the occurrence of the more dangerous conditions just recited, together with deafness. Bearing all this in mind it is advisable never to neglect a severe or persistent earache, but to call in expert attention. When this is not obtainable the treatment outlined below should be carefully followed.

Symptoms.—Pain is severe and often excruciating in adults. It may be felt over the temple, side and back of the head and neck, and even in the lower teeth, as well as in the ear itself. The pain is increased by blowing the nose, sneezing, coughing, and stooping. There is considerable tenderness usually on pressing on the skin in front of the ear passage. In infants there may be little evidence of pain in the ear. They are apt to be very fretful, refuse food, cry out in sleep, often lie with the affected ear resting on the hand, and show tenderness on pressure immediately in front or behind the ear passage.

[Text continued on page 47.]

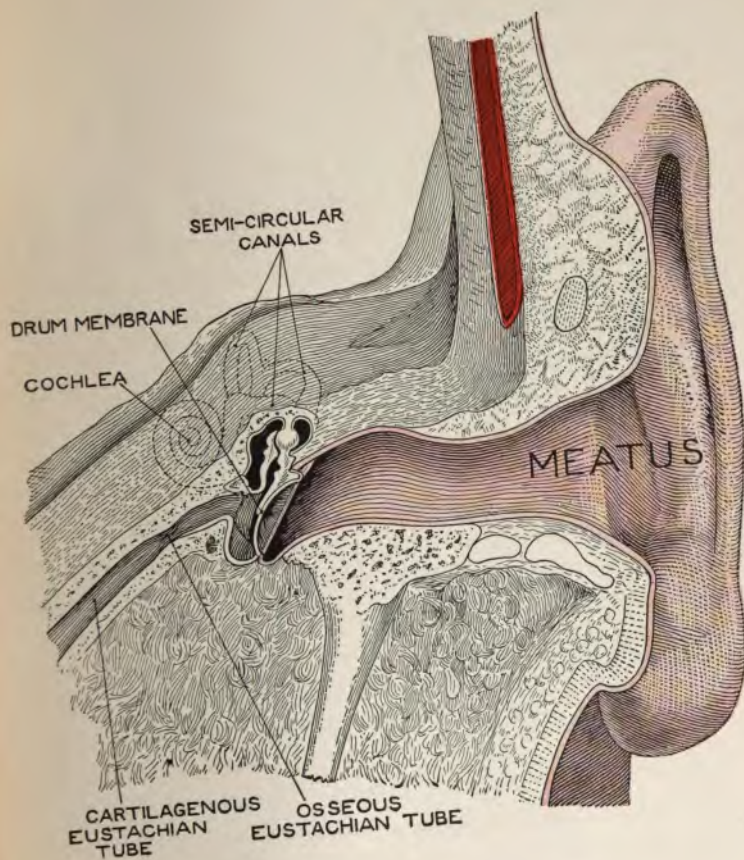
Plate II

ANATOMY OF THE EAR

The illustration on the opposite page shows the interior structure of the ear. The concha and **Meatus**, or canal, comprise the external ear, which is separated from the middle ear by the **Drum Membrane**. Wax is secreted by glands located in the lining of the meatus, and should be detached by the motion of the jaws during talking and eating. If it adheres to the drum membrane it causes partial deafness.

The internal ear, or labyrinth, a cavity in the bone, back of the middle ear, consists of three parts: the **Cochlea**, the **Semicircular Canals**, and a middle portion, the **Vestibule**. The middle ear is connected with the throat by the **Eustachian Tube**.

Sound vibrations, which strike the drum membrane, are conveyed by means of a chain of three small bones through the middle ear to the nervous apparatus of the internal ear. The Eustachian tube and middle ear are lined throughout with mucous membrane, and any severe inflammation of the throat may extend to and involve the tube and the middle ear, causing deafness.



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Dullness, fever, chills, and convulsions are not uncommon in children, but, on the other hand, after some slight illness it is not infrequent for discharge from the ear to be the first sign which calls the attention of parent or medical attendant to the source of the trouble. For this reason the careful physician always examines the ear in doubtful cases of children's diseases. Unless the inflammation subsides with treatment, either a thin, watery fluid (serum) is formed in the middle ear, or pus, when we have an "abscess of the ear." The drum if left to itself breaks down in three to five days, or much sooner in children who possess a thinner membrane. A discharge then appears in the canal of the external ear, and the pain is relieved. It may occasionally happen that the Eustachian tube drains away the discharge, or that the discharge from the drum is so slight that it is not perceived, and recovery ensues. Discharge from the ear continues for a few weeks, and then the hole in the drum closes and the trouble ceases. This is the history in favorable cases, but unfortunately, as we have indicated, the opposite state of affairs results not infrequently, especially in neglected patients.

Treatment.—The patient with severe earache should go to bed and take a cathartic to move the bowels. He should lie all the time with the painful ear on a rubber bag containing water as hot as can be comfortably borne. Every two hours a jet of hot water, which has been boiled and cooled just suffi-

Moderate or Slight Earache

ciently to permit of its use, is allowed to flow gently from a fountain syringe into the ear for ten minutes, and then the ear is dried with cotton, as described under the treatment of wax in the ear (p. 35). No other "drops" of any kind are admissible for use in the ear, and even this treatment is of less importance than the dry heat from the hot-water bag, and may be omitted altogether if the appliances and skill to dry the ear are lacking. Ten drops of laudanum¹ for an adult, or a teaspoonful of paregoric for a child six years old, may be given by the mouth to relieve the pain. The temperature of the room should be even and the food soft.

If the pain continues it is wiser to have an aurist lance the drum, to avoid complications, than to wait for the drum membrane to break open spontaneously in his absence. Loss or damage of the eardrums may call for "artificial eardrums." They do not act at all like the drumhead of the musical instrument by their vibrations, but only are of service in putting on the stretch the little bones in the middle ear which convey sound. Some of those advertised do harm by setting up a mechanical irritation in the ear after a time, and a better result is often obtained with a ball of cotton or a paper disc introduced into the ear by an aurist.

MODERATE OR SLIGHT EARACHE.—A slight or moderate earache, which may, however, be

¹Caution. Ask the doctor first.

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very persistent, not sufficient to incapacitate the patient or prevent sleep, is often caused by some obstruction in the Eustachian tube, either by swelling or mucous discharge. This condition gives rise to the train of effects noted in the section on deafness. The air in the middle ear is absorbed to some extent, and therefore the pressure within the ear is less than that outside the drum, so that the latter is pressed inward with the result that pain, and perhaps noises and deafness ensue, and, if the condition is not relieved, inflammation of the middle ear as described above.

Treatment.—Treatment is directed toward cleaning the back of the nose and reducing swelling at the openings of the Eustachian tubes in this locality, and inflating the tubes with air. A spray of Seiler's solution¹ is thrown from an atomizer through the nostrils, with the head tipped backward, until it is felt in the back of the throat, and after the water has drained away the process is repeated a number of times. This treatment is pursued twice daily, and one hour after the fluid in the nose is well cleared away the Eustachian tubes may be inflated by the patient. To accomplish this the lips are closed tightly, and the nostrils also, by holding the nose; then an effort is made to blow the cheeks out till air is forced into the tubes and is felt entering both ears. This act is attended with danger of carrying up fluid into the tubes and greatly

¹ Tablets for the preparation of Seiler's solution are to be found at most druggists.

Moderate or Slight Earache

aggravating the condition, unless the water from the spray has had time to drain away.

Blowing the nose, as has been pointed out, is unwise, but the water may be removed to some extent by "clearing the throat." The reduction of swelling at the entrance of the Eustachian tube in the back of the nose can be properly treated only by an expert, as some astringent (glycerite of tannin) must be applied on cotton wound on a curved applicator, and the instrument passed above and behind the roof of the mouth into the region back of the nose.

Rubbing the parts just in front of the external opening into the ear with the tip of one finger for a period of a few minutes several times a day will also favor recovery in this trouble.

CHAPTER II

The Nose and Throat

*Cold in the Head—Mouth-Breathing—Toothache—Sore Mouth
—Treatment of Tonsillitis—Quinsy—Diphtheria.*

NOSEBLEED.—Nosebleed is caused by blows or falls, or more frequently by picking and violently blowing the nose. The cartilage of the nasal septum, or partition which divides the two nostrils, very often becomes sore in spots, owing to irritation of dust-laden air, and these crust over and lead to itching. Then "picking the nose" removes the crusts, and frequent nosebleed results. Nosebleed also is common in both full-blooded and anæmic persons; in the former because of the high pressure within the blood vessels, in the latter owing to the thin walls of the arteries and capillaries which readily rupture.

Nosebleed is again an accompaniment of certain general disorders, as heart disease and typhoid fever. The bleeding comes usually from one nostril only, and is a general oozing from the mucous membrane, or more commonly flows from one spot on the septum near the nostril, the cause of which we have just noted. The blood may spout forth in a stream, as after a blow, or trickle away drop by drop, but is rarely dangerous

Nosebleed

except in infants and aged persons with weak blood vessels. In the case of the latter the occurrence of bleeding from the nose is thought to indicate brittle vessels and a tendency to apoplexy, which may be averted by the nosebleed. This is uncertain. If nosebleed comes on at night during sleep, the blood may flow into the stomach without the patient's knowledge, and on being vomited may suggest bleeding from the stomach.

Treatment.—The avoidance of excitement and of blowing the nose, hawking, and coughing will assist recovery. The patient should sit quietly with head erect, unless there is pallor and faintness, when he may lie down on the side with the head held forward so that the blood will flow out of the nose. There is no cause for alarm in most cases, because the more blood lost the more readily does the remainder clot and stop bleeding. As the blood generally comes from the lower part of the partition separating the nostrils, the finger should be introduced into the bleeding nostril and pressure made against this point, or the whole lower part of the nose may be simply compressed between the thumb and forefinger. If this does not suffice a lump of ice may be held against the side of the bleeding nostril, and another placed in the mouth. The injection into the nostril of ice water containing a little salt is sometimes very serviceable in stopping nosebleed. Blowing the nose must be avoided for some time after the bleeding ceases.

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If none of these methods arrest the bleeding the nostril must be plugged. A piece of clean cotton cloth, about five inches square, should be pushed gently but firmly into the nostril with a slender cylinder of wood about as large as a slate pencil and blunt on the end. This substitute for a probe is pressed against the center of the cloth, which folds about the stick like a closed umbrella, and the cotton is pressed into the nostril in a backward and slightly downward direction, for two or three inches, while the head is held erect. Then pledgets of cotton wool are packed into the bag formed by the cotton cloth after the stick is withdrawn. The mouth of the bag is left projecting slightly from the nostril, so that the whole can be withdrawn in twenty-four hours.

The bleeding nostril may be more readily plugged by simply pressing into it little pledgets of cotton with a slender stick, but it would be impossible for an unskilled person to get them out again, and a physician should withdraw them inside of forty-eight hours.

FOREIGN BODIES IN THE NOSE.—Children often put foreign bodies in their nose, as shoe buttons, beans, and pebbles. They may not tell of it, and the most conspicuous symptoms are the appearance of a thick discharge from one nostril, having a bad odor, and some obstruction to breathing on the same side. If the foreign body can be seen, the nostril on the unobstructed side should be closed and the child made to blow out of the other one. If blowing does not re-

[Text continued on page 55.]

Plate III

THE NASAL CAVITY

In the illustration on the opposite page, the **Red Portion** indicates the **Septum** of the nose, the partition which separates the nostrils.

Inflammation of the membrane lining the nasal cavity is the condition peculiar to catarrh or "cold in the head." Deformity of the septum may obstruct the entrance of air into the nose and create suction on the walls of the nasal cavity, causing an overfilling of the blood vessels, or "congestion," with subsequent thickening of the mucous membrane.

Polypi, small growths which form in the nose, or enlargement of the glands in the upper part of the throat (just beyond dotted line at inner edge of red portion) also block the air passages and give rise to mouth-breathing and its attendant disorders.

Another cause of mouth-breathing is extreme swelling of the membrane which covers the turbinated bones of the nose.

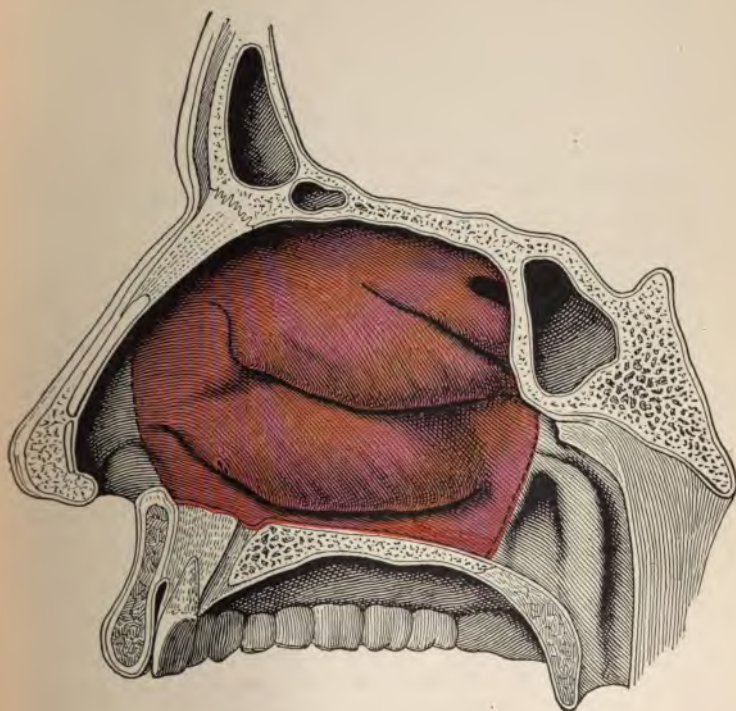


PLATE III



move the body it is best to secure medical aid very speedily.

COLD IN THE HEAD FROM OVERHEATING.—Chilling of the surface of the body favors the occurrence of colds, in which lowered bodily vitality allows the growth of certain germs always present upon the mucous membrane lining the cavities of the nose. Dust and irritating vapors also predispose to colds. Overwarm clothing makes a person susceptible to colds, while the daily use of cold baths is an effective preventive. There is no sufficient reason for dressing more warmly in a heated house in winter than one would dress in summer. It is, moreover, unwise to cover the chest more heavily than the rest of the body. Some one has wisely said: "The best place for a chest protector is on the soles of the feet." The rule should always be to keep the feet dry and warm, and adapt the clothing to the surrounding temperature. Among the germs which cause colds in the head, that of pneumonia is the one commonly found in the discharge from the nose. When pneumonia is epidemic it is therefore wise to take extra precautions to avoid colds, and care for them when they occur.

The presence of chronic trouble in the throat and nose, such as described under Mouth-Breathing, Adenoids, etc. (p. 60), is perhaps the most frequent cause of colds, because the natural resistance of the healthy mucous membrane to the attack of germs is diminished thereby, and the catarrhal secretions form a source of

Cold in the Head from Overheating

food for the germs to grow upon. It should also be kept in mind that cold in the head is the first sign of measles and of *grippe*. Colds are more common in the spring and fall.

Symptoms.—Colds begin with chilliness and sneezing, and, if severe, there may be also headache, fever, and pain in the back and limbs, as in *grippe*. The nose at first feels dry, but soon becomes more or less stopped with secretion. The catarrh may extend from the back of the nose through the Eustachian tube to the ear, causing earache, noises in the ear, and deafness (see p. 41). This unfortunate result may be averted by proper spraying of the nose, and avoidance of blowing the nose violently.

Treatment.—Treatment must be begun at the first suspicion of an attack to be of much service. The bowels should be opened with calomel or other cathartic; two-fifths of a grain for an adult, half a grain for a child. Rest in bed for a day or two, after taking a hot bath and a glass of hot lemonade containing a tablespoonful or two of whisky, is the most valuable treatment. The Turkish bath is also very efficacious in cutting short colds, but involves great risk of increasing the trouble unless the patient can return home in a closed carriage directly from the bath. Of the numerous remedies which are commonly used to arrest colds in the first stages are two which possess special virtue; namely, quinine and Dover's powder, given in single dose of ten grains of each for an adult.

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Both of these remedies may be taken, but while the Dover's powder is most effective it is often necessary for the patient to remain in bed twelve to eighteen hours after taking it on account of nausea and faintness which would be produced if the patient were up and moving about. Rhinitis tablets should never be used. They are generally abused, and, indeed, some fatal cases are on record in which they caused death. Drugs are of little value except in the beginning of a cold, when they are given with the hope of cutting short an attack.

The local applications of remedies to the inflamed region is of service. At the onset of the cold, Seiler's solution (conveniently made from tablets which are sold in the shops) or Dobell's solution should be sprayed from an atomizer, into the nostrils, every half hour, and, when the discharge becomes thick and copious, this is to be discarded for a spray consisting of alboline (four ounces) and camphor and menthol (each thirty grains), used in the same manner as long as the cold lasts. Containing bottles should be stood in hot water, in order that all sprays for the nostrils may be used warm.

It is well to give babies a teaspoonful of castor oil and a warm bath, and keep them in bed. If there is fever with the cold, five drops of sweet spirit of niter may be given in a teaspoonful of sweetened water every two hours. Liquid vaseline, or the alboline mixture advised for adults, may be dropped into the nostrils

Alveolar Abscess

with a medicine dropper more conveniently than applied by spray.

TOOTHACHE.—When there is a cavity in an aching tooth it should be cleaned of food, and a little pledget of cotton wool wrapped on a toothpick may be used to wipe the cavity dry. Then the cavity should be loosely packed, by means of a toothpick or one prong of a hairpin, with a small piece of absorbent cotton rolled between the fingers and saturated with one of the following substances, preferably the first: oil of cloves, wood creosote, or chloroform.

If wood creosote is used the cotton must be well squeezed to get rid of the excess of fluid, as it is poisonous if swallowed, and will burn the gum and mouth if allowed to overflow from the tooth.

ALVEOLAR ABSCESS (*improperly called "Ulcerated Tooth"*).—An "ulcerated tooth" begins as an inflammation in the socket of a tooth, and, if near its deepest part, causes great pain, owing to the fact that the pus formed can neither escape nor expand the unyielding bony wall of the socket.

This explains why an abscess near the tooth is so much more painful than a similar one of soft parts. There may be no cavity in the tooth, but the tooth is commonly dead, or its nerve is dying, and the tooth is frequently darker in color. It often happens that threatened abscess at the root of a tooth, which has been filled, can be averted by a dentist's boring down into the root of the tooth, or removing the filling. It is

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not always possible to locate the troublesome tooth, from the pain, but by tapping on the various teeth in turn with a knife, or other metal instrument, special soreness will be discovered in the "ulcerated" tooth. The ulcerated tooth frequently projects beyond its fellows, and so gives pain when the jaws are brought together in biting.

Treatment.—The treatment for threatened abscess near a tooth consists in painting tincture of iodine, with a camel's hair brush, upon the gum at the root of the painful tooth, and applying, every hour or so, over the same spot a toothache plaster (sold by all druggists). The gum must be wiped dry before applying the moistened toothache plaster. Water, as hot as can be borne, should be held in the mouth, and the process repeated for as long a time as possible. Then the patient should lie with the painful side of the face upon a hot-water bag or bottle. The trouble may subside under this treatment, owing to disappearance of the inflammation, or to the unnoticed escape of a small amount of pus through a minute opening in the gum. If the inflammation continues the pain becomes intense and throbbing; there is often entire loss of sleep and rest, fever, and even chills, owing to a certain degree of blood poisoning. The gum and face swell on the painful side, and the patient often suffers more than with many more serious diseases.

After several days of distress, the bony socket of the tooth gives way, and the pus makes its exit, and,

Mouth-Breathing

bulging out the gum, finally escapes through this also, to the immediate relief of the patient. But serious results sometimes follow letting nature alone in such a case, as the pus from an eyetooth may burrow its way into the internal parts of the upper jaw, or into the chambers of the nose, while that from a back tooth often breaks through the skin on the face, leaving an ugly scar, or, if in the lower jaw, the pus may find its way between the muscles of the neck, and not come to the surface till it escapes through the skin above the collar bone. Pulling the tooth is the most effective way of relieving the condition, the only objection being the loss of the tooth, which is to be avoided if possible.

If the pain is bearable and there are no chills and fever, the patient may save the tooth by remaining in bed with a hot-water bottle continually on the face, and taking ten drops of laudanum to relieve the pain at intervals of several hours. Then many hours of suffering may be prevented if the gum is lanced with a sharp knife (previously boiled for five minutes) as soon as the gum becomes swollen, to allow of the escape of pus. The dentist is, of course, the proper person to consult in all cases of toothache, and the means herein suggested are to be followed only when it is impossible to obtain his services.

MOUTH-BREATHING (*including Adenoids, Chronic Tonsilitis, Deviation of the Nasal Septum, Enlarged Turbinates, and Polypi*).—Any obstruction

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in the nose causes mouth-breathing and gives rise to one or more of a long train of unfortunate results. Among the disorders producing mouth-breathing, enlargement of the glandular tissue in the back of the nose and in the throat of children is most important. Glandular growths in the upper part of the throat opposite the back of the nasal cavities are known as "adenoids"; they often completely block the air passage at this point, so that breathing through the nose becomes difficult. Associated with this condition we usually see enlargement of the tonsils, two projecting bodies, one on either side of the entrance to the throat at the back of the mouth. In healthy adult throats the tonsils should be hardly visible; in children they are active glands and easily visible.

We are unable to see adenoids because of their position, but can be reasonably sure of their presence in children where we find symptoms resulting from mouth-breathing as described below. The surgeon assures himself positively of the existence of adenoids by inserting a finger into the mouth of the patient and hooking it up back of the roof of the mouth, when they may be felt as a soft mass filling the back of the nose passages.

Other less common causes of mouth-breathing, seen in adults as well as children, are deviation of the nasal septum, swelling of the mucous membrane covering certain bones in the nose (turbinates), and polypi.

Deviation of the nasal septum means displacement

Mouth-Breathing

of the partition dividing the two nostrils, so that more or less obstruction exists. This condition may be occasioned by blows on the nose received in the accidents common to childhood. The deformity which results leads in time to further obstruction in the nose, because when air is drawn in through the narrowed passages a certain degree of vacuum is produced and suction on the walls of the nose, as would occur if we drew in air from a large pair of bellows through a small thin rubber tube. This induces an overfilling of the blood vessels in the walls of the passages of the nose, and the continued congestion is followed by increased thickness of the lining mucous membrane, thus still further obstructing the entrance of air. A one-sided nasal obstruction in a child with discharge from that side leads one to suspect that a foreign body, as a shoe button, has been put in by the child.

Polypi are small pear-shaped growths which form on the membrane lining the nasal passages and sometimes completely block them. They resemble small grapes without skins.

These, then, are the usual causes of mouth-breathing, but of most importance, on account of their frequency and bearing on the health and development, are adenoids and enlarged throat tonsils in children. Adenoids and enlarged tonsils are often due to inflammation of these glands during the course of the contagious eruptive disorders, as scarlet fever, measles, or diphtheria; probably, also, to constant exposure to a germ-

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laden atmosphere, as in the case of children herded together in tenements.

Symptoms.—The mouth-breathing is more noticeable during sleep; snoring is common, and the breathing is of a snorting character with prolonged pauses. Children suffering from enlarged tonsils and adenoids are often backward in their studies, look dull, stupid, and even idiotic, and are often cross and sullen; the mouth remains open, and the lower lip is rolled down and prominent; the nose has a pinched aspect, and the roof of the mouth is high. Air drawn into the lungs should be first warmed and moistened by passing through the nose, but when inspired through the mouth, produces so much irritation of the throat and air passages that constant "colds," chronic catarrh of the throat, laryngitis, and bronchitis ensue.

The constant irritation of the throat occurring in mouth-breathers weakens the natural resistance against such diseases as acute tonsillitis, scarlet fever, and diphtheria, so that they are especially subject to these diseases. But these are not the only ailments to which the mouth-breather is liable, for earache and deafness naturally follow the catarrh, owing to obstruction of the Eustachian tubes (see Earache, p. 40, and Deafness, p. 38). Deformity of the chest is another result of obstruction to nose-breathing, the common form being the "pigeon breast," where the breastbone is unduly prominent. The voice is altered so that the patient, as the saying goes, "talks through the nose," although, in

Sore Mouth

reality, nasal resonance is reduced and difficulty is experienced in pronouncing N and M correctly, while stuttering is not uncommon. Nasal obstruction leads to poor nutrition, and hence children with adenoids and enlarged tonsils are apt to be puny and weakly specimens.

Treatment.—The treatment is purely surgical in all cases of nasal obstruction: removal of the adenoid growths, enlarged tonsils, and polypi, straightening the displaced nasal septum, and burning the thickened mucous lining obstructing the air passages in the nose. None of the operations are dangerous if skillfully performed, and should be generally done, even in the case of delicate children, as the very means of overcoming this delicacy. The after treatment is not unimportant, consisting in the use of simple generous diet, as plenty of milk, bread and butter, green vegetables and fresh meat, and the avoidance of pastries, sweets, fried food, pork, salt fish and salt meats, also the roots, as parsnips, turnips, carrots and beets, and tea and coffee. Life in the open air, emulsion of cod-liver oil, daily sponging with cold water while the patient stands in warm water, followed by vigorous rubbing, will all assist the return to health.

SORE MOUTH; INFLAMMATION OF THE MOUTH.—There are various forms of inflammation of the mouth, generally dependent upon the entrance of germs, associated with indigestion or general weakness following some fever or other disease. Unclean

nipples of the mother or of the bottle, or unclean bottles, allow entrance of germs, and are frequent causes. Irritation of a sharp tooth, or from rubbing the gum, or from too vigorous cleansing of the mouth, may start the disease. Some chemicals, especially mercury improperly prescribed, produce the disease. The germs may gain admission in impure milk in some cases. Inflammation of the mouth is essentially a children's disease, only the ulcerated form being common in adults.

Symptoms.—In general, the mouth is hot, very red, dry, and tender; the child is fretful and has difficulty in nursing, often dropping the nipple and crying; the tongue is coated, and there may be fever and symptoms of indigestion, as vomiting; sometimes the disease occurs during the course of fevers; later in the course of the disorder the saliva often runs freely from the mouth.

Simple Form.—In this there are only redness, swelling, and tenderness of the inside of the mouth. The tongue is at first dry and white, but the white coating comes off, leaving it red in patches. After a while the saliva becomes profuse. The treatment consists in washing the mouth often in ice water containing about one-half drachm of boric acid to four ounces of water by means of cotton tied on a stick, and holding lumps of ice in the mouth wrapped in the corner of a handkerchief. It is well also to give a teaspoonful of castor oil.

Sore Mouth

Aphthous Form.—In this there are yellow-white spots, resulting in little shallow depressions or ulcers, on the inside of the cheeks and lips, and on the tongue and roof of the mouth. These occur in crops and last from ten to fourteen days. The disease is often preceded by vomiting, constipation, and fever, with pain in the mouth and throat, and is accompanied by lumps or swelling of the glands under the jaw and in the neck. The treatment consists in the use of castor oil, and swabbing the mouth, several times a day, after each feeding, with boric-acid solution, as advised before, or better with permanganate of potash solution, using ten grains to the cup of water.

Thrush (*Sprue*).—This form is due to the growth of a special fungus in the mouth, causing the appearance of white spots on the inside of the cheeks, lips, tongue, and roof of the mouth, looking like flakes of curdled milk, but not easily removed. There are also symptoms of indigestion, as vomiting, diarrhea, and colic. The disease is contagious, and is due to some uncleanliness, often of the bottles, nipples, or milk. Sometimes ulcers or sore depressions are left in the mouth, and in weak children, in which the disease is apt to occur, the result may be serious, and a physician's services are demanded. The treatment consists in applying saleratus and water (one teaspoonful in a cup of water) to the whole inside of the mouth, between feedings, with a camel's-hair brush or with a soft cloth. A dose of castor oil is also desirable, and

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great care as regards cleanliness of the bottles and nipples should be exercised.

Ulcerous Form.—This does not occur in children under five, but may attack persons of all greater ages. It is often seen following measles and scarlet fever, and in the poor and ill nourished, and after the unwise use of calomel. There are redness and swelling of the gum about the base of the lower front teeth, and the gums bleed easily. Matter, or pus, forms between the teeth and the gum, and the mouth has a foul odor. The gum on the whole lower jaw may become inflamed, and a yellow band of ulceration may appear along the gums. The glands under the jaw and in the neck are enlarged, feeling like tender lumps, and saliva flows freely. In severe cases the gums may become destroyed and eaten away by the ulceration, and the bone of the jaw be diseased and exposed. As in the graver cases it may become necessary to remove dead bone and teeth, and the very dangerous form next described may sometimes follow it, it will be seen that it is a disease requiring skilled medical attention. The treatment consists in using, as a mouth wash and gargle, a solution of chlorate of potash (fifteen grains to the ounce) every two hours. Cases usually last at least a week.

Gangrenous Form.—This is a rare and fatal form of inflammation of the mouth and occurs in children weak and debilitated from other diseases, as from

Sore Mouth

the contagious eruptive fevers, chronic diarrhea, and scurvy. It is seen more often in hospitals and is contagious. A foul odor is noticed about the mouth, in which will be seen an ulcer on the gum or inside of the cheek. The cheek swells tremendously, with or without pain, and becomes variously discolored—red, purple, black. The larger proportion of patients die of exhaustion and blood poisoning within one to three weeks, and the only hope is through surgical interference at the earliest possible moment.

CANKER.—A small, shallow, yellow ulcer, appearing on the inside of the lips or beneath the tongue during some disorder of the digestion. It is very tender when touched and renders chewing or talking somewhat painful. Treatment consists of touching the ulcer carefully with the point of a wooden toothpick which has been dipped in pure carbolic acid (a poison) and then rinsing the resulting white spot and the whole mouth very carefully, so as not to swallow any of the acid.

Inflammation of the mouth occurs in two other general diseases, in syphilis and rarely in diphtheria. In children born of syphilitic parents, deep cracks often appear at either side of the mouth and do not heal as readily as ordinary sores, but continue a long time, and eventually leave deep scars. In diphtheria the membrane which covers the tonsils sometimes spreads to the cheeks, tongue, and lips, but in either case the general symptoms will serve to dis-

tinguish the diseases, and neither can be treated by the layman.

MILD SORE THROAT (*Acute Pharyngitis*).—

The milder sore throat is commonly the beginning of an ordinary cold, although sometimes it is caused by digestive disorders. Exposure to cold and wet is, however, the most frequent source of this form of sore throat. Soreness, dryness, and tickling first call attention to the trouble, together with a feeling of chilliness and, perhaps, slight fever. There may be some stiffness and soreness about the neck, owing to swelling of the glands. If the back of the tongue is held down by a spoon handle, the throat will be seen to be generally reddened, including the back, the bands at the side forming the entrance to the throat at the back of the mouth, and the uvula or small, soft body hanging down from the middle of the soft palate at the very back of the roof of the mouth. The tonsils are not large and red nor covered with white dots, as in tonsilitis. Neither is there much pain in swallowing. The surface of the throat is first dry, glistening, and streaked with stringy, sticky mucus.

Treatment.—The disorder rarely lasts more than a few days. The bowels should be moved in the beginning of the attack by some purge, as two compound cathartic pills or three grains of calomel, and the throat gargled, six times daily, with potassium chlorate solution (one-quarter teaspoonful to the cup of water), or with Dobell's solution. In gargling,

[Text continued on page 71.]

Plate IV

THE LARYNX

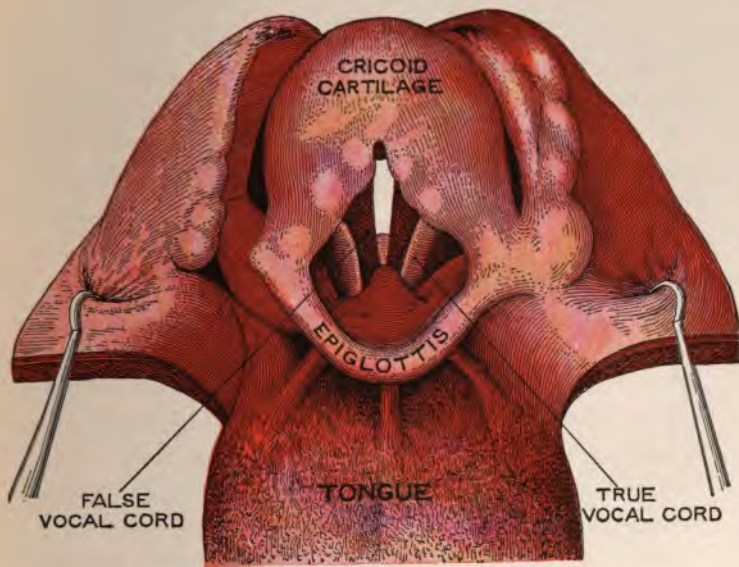
The illustration on the opposite page shows the upper part of the larynx and the base of the tongue.

During the inspiration of a full breath, or when singing a low note, the **Epiglottis** lies forward and points upward, as shown in the cut, with the glottis (the passage leading into the windpipe between the vocal cords) wide open.

During the act of swallowing, the epiglottis is turned downward and backward until it touches the **Cricoid Cartilage**, thus closing the glottis. The cricoid cartilage, which forms the upper part of the framework of the larynx, rests on the "Adam's apple."

The **False Vocal Cords** are bands of ligament, and take no part in the production of sound.

The **True Vocal Cords** move during talking or singing, and relax or contract when sounding, respectively, a low or high note. Hoarseness and cough occurring during laryngitis, diphtheria, and croup, are the result of inflammation of the mucous membrane lining the larynx.



simply throw back the head and allow the fluid to flow back as far as possible into the throat without swallowing it. The frequent use of one of these fluids in an atomizer is even preferable to gargling. As an additional treatment, the employment of a soothing and pleasant substance, as peppermints, hoarhound or lemon drops, or marshmallows or gelatin lozenges, is efficacious, and will prove an agreeable remedy to the patient in sad contrast with many of our prescriptions. The use of tobacco must be stopped while the throat is sore.

TONSILITIS (*Follicular Tonsilitis*).—Tonsilitis is a germ disease and is contagious. Exposure to cold and wet and to germ-laden air renders persons more liable to attacks. It is more likely to occur in young people, especially those who have already suffered from the disease and whose tonsils are chronically enlarged, and is most prevalent in this country in spring. The disease appears to be often associated with rheumatism. Tonsilitis begins much like *grippe*, with fever, headache, backache and pain in the limbs, sore throat, and pain in swallowing. On inspecting the throat (with the tongue held down firmly by a spoon handle and the mouth widely open in a good light, preferably sunlight) the tonsils will be seen to be swollen, much reddened, and dotted over with pearl-white spots.

Sometimes only one tonsil is so affected, but the other is likely to become inflamed also. Occasionally

Tonsilitis

there may be only one spot of white on the tonsil. The swelling differs in degree; in some cases the tonsils may be so swollen as almost to meet together, but there is no danger of suffocation from obstruction of the throat, as occurs in diphtheria and very rarely in quinsy. The characteristic appearance then consists in large, red tonsils covered with white spots. The spots represent discharge which fills in the depressions in the tonsil. The fever lasts three days to a week, generally, and then subsides together with the other symptoms.

With apparent tonsilitis there must always be kept in mind the possibility of diphtheria, and, unfortunately, it is at times impossible for the most acute physician to distinguish between these two diseases by the appearances of the throat alone. In order to do so it is necessary to rub off some of the discharge from the tonsils, and examine, microscopically, the kind of germs contained therein. The general points of difference are: in diphtheria the tonsils are usually completely covered with a gray membrane. In the early stage, or in mild cases of diphtheria, there may be only a spot on one tonsil, but it is apt to be yellow in color, and is thicker than the white spots in tonsilitis. These are the difficult cases. Ordinarily, in diphtheria, not only are the tonsils covered with a grayish membrane, but this soon extends to the surrounding parts of the throat, whereas in tonsilitis the spots are always found on the tonsil alone. The white

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spot can be readily wiped off with a little absorbent cotton wound on a stick, in the case of tonsilitis, but in diphtheria the membrane can be removed in this way only with difficulty, and leaves underneath a rough, bleeding surface. The breath is apt to have a bad odor in diphtheria, and the temperature is lower (not much over 100° F.) than in tonsilitis, when it is frequently 101° to 103° F. Notwithstanding these points, it is never safe for a layman to undertake the diagnosis when a physician's services are obtainable. On the other hand, when this is not possible and the patient's tonsils present the white, dotted appearance described, especially if subject to similar attacks, one may be reasonably sure that the case is tonsilitis.

Treatment.—The patient should be put to bed and kept apart from children and young persons, and, if living among large numbers of people, should be strictly quarantined. For, although the disease is not dangerous, it quickly spreads in institutions, boarding schools, etc. If the tonsils are painted with a solution of silver nitrate (one drachm to the ounce of water), applied carefully with a camel's-hair brush, at the beginning of the attack, and making two applications twelve hours apart, the disease may sometimes be arrested. It is well also at the start to open the bowels with calomel, giving three grains in a single dose, or divided doses of one-half grain each until three grains have been taken. Pain is relieved by phenacetin in three- to five-grain doses as required, but not taken

Tonsilitis

oftener than once in three hours, while at night five to ten grains of Dover's powder (for an adult) will secure sleep. For children one-half drop doses of the (poisonous) tincture of aconite is preferable to phenacetin. The outside of the throat should be kept covered with wet flannel wrung out in cold water and covered with oil silk, or an ice bag may be conveniently used in its place. A half teaspoonful of the following prescription is beneficial unless it disagrees with the stomach. It must not be taken within half an hour of a meal, and is not to be diluted with water, as it acts, partly through its local effect, on the tonsils when allowed to flow from a spoon on the back of the tongue.

℞ Glycerin4 ounces
Tincture of chloride of iron..... $\frac{1}{2}$ ounce
Mix. Directions, half teaspoonful every half hour.

A mixture of hydrogen dioxide, equal parts, with water can also be used to advantage as a spray in an atomizer every two hours. The phenacetin and Dover's powder must be discontinued as soon as the pain and sleeplessness cease, but the iron preparation and spray should be continued until the throat regains its usual condition. A liquid diet is desirable during the first part of the attack, consisting of milk, cocoa, egg-nog (made of the white of egg), soups, and gruels; orange juice may be allowed, also grapes. The bowels must be kept regular with mild remedies, as a Seidlitz powder in a glass of water in the morning, or one

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or two two-grain tablets of extract of cascara sagrada at night.

QUINSY.—Quinsy is a peritonsilitis; that is, it is an inflammatory disease of the tissues in which the tonsil is imbedded, an inflammation around the tonsil. The swelling of these tissues thrusts the tonsil out into the throat; but the tonsil is little affected. Quinsy involves the surrounding structures of the throat, and usually results in abscess. The disease is said to be frequently hereditary, and often occurs in those subject to rheumatism and gout. It is seen more often in spring and autumn and in those living an out-of-door existence, and having once had quinsy the victim is liable to frequent recurrences of the disease. Quinsy is characterized by much greater pain in the throat and in swallowing than is the case in tonsilitis, and the temperature is often higher—sometimes 104° to 105° F. When the throat is inspected, one or both tonsils are seen to be enlarged and crowded into its cavity from the swelling of the neighboring parts. The tonsils may almost block the entrance to the throat. The voice is thick and indistinct, the glands in the side of the neck become swollen, and the neck is sore and stiff in consequence, while the mouth can be only partially opened on account of pain. For the same reason the patient can swallow neither solid nor liquid food, and sits bent forward, with saliva running out of the mouth. The secretion of saliva is increased, but is not swallowed on account of the pain produced

Quinsy

by the act. Sleep is also impossible, and altogether a more piteous spectacle of pain and distress is rarely seen. Having reached this stage the inflammation usually goes on to abscess (formation behind or above or below the tonsil), and, after five to ten days from the beginning of the attack, the pus finds its way to the surface of the tonsil, and breaks into the mouth to the inexpressible relief of the patient. This event is followed by quick subsidence of the symptoms. Quinsy is rarely a dangerous disease, yet, occasionally, it leads to so much obstruction in the throat that death from suffocation ensues unless a surgeon opens the throat and inserts a tube. Occasionally the pus from the ruptured abscess enters the larynx and causes suffocation.

Quinsy differs from tonsilitis in the following respects: the swelling affects the immediate surrounding area of the throat; there are no white spots to be seen on the tonsil unless the trouble begins as an ordinary tonsilitis; there is great pain on swallowing, and finally abscess near the tonsil in most cases.

Treatment.—A thorough painting of the tonsils at the onset of a threatened attack of quinsy with the silver-nitrate solution, as recommended under tonsilitis, may cut short the disorder. A single dose of calomel (three to five grains) is also useful for the same purpose. The tincture of aconite should be taken hourly in three-drop doses until five such have been swallowed, when the drug is to be no longer used.

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The constant use of a hot flaxseed poultice (as large as the whole hand and an inch thick, spread between thin layers of cotton and applied as hot as can be borne, and changed every half hour) gives more relief than anything else, and may possibly lead to disappearance of the trouble if employed early enough. The use of the poultices is to be kept up until recovery, although they need not be applied so frequently as at first. A surgeon's services are especially desirable in this disorder, as early puncture of the peritonsillar tissue may save days of suffering in affording exit for pus as soon as it forms.

DIPHThERIA.—The consideration of diphtheria will be limited to emphasizing the importance of calling in expert medical advice at the earliest possible moment in suspicious cases of throat trouble. For, as we noted under tonsilitis, it is impossible in some cases to decide, from the appearance of the throat, whether the disease is diphtheria or tonsilitis. A specimen of secretion removed from the throat for microscopical examination by a bacteriologist as to the presence of diphtheria germs alone will determine the point. When such an examination is impossible, it is always best to isolate the patient, especially if a child, and treat the case as if it were diphtheria. Diphtheria may invade the nose and be discoverable in the nostrils. A chronic membranous rhinitis should be treated as a case of walking diphtheria.

Antitoxin is the treatment above all other reme-

Diphtheria

dies. It has so altered the outlook in diphtheria that, formerly regarded by physicians with alarm and dismay, it is now rendered comparatively harmless. The death rate has been reduced from an average of about forty per cent, before the introduction of antitoxin, to only ten per cent since its use, and, when it is used at the onset of the disease, the results are much more favorable still. This latter fact is the reason for obtaining medical advice at the earliest opportunity in all doubtful cases of throat ailments; and, we might add, that the diagnosis of any case of sore throat is doubtful, particularly in children, whenever there is seen a whitish, yellowish-white, or gray deposit on the throat. Antitoxin is an absolutely safe remedy, its ill effects being sometimes the production of a nettlerash or some mild form of joint pains. In small doses, it will prevent the occurrence of diphtheria in those exposed, or liable to exposure, to the disease. The proper dose and method of employing antitoxin it is impossible to impart in a book of this kind. Paralysis of throat, of vocal cords, or of arms or legs—partial or entire—is a frequent sequel of diphtheria. It is not caused by antitoxin.

The points which it is desirable for everyone to know are, that any sore throat—with only a single white spot on the tonsil—may be diphtheria, but that when the white spot or deposit not only covers the tonsil or tonsils (see Tonsilitis) but creeps up on to the surrounding parts, as the palate (the soft cur-

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tain which shuts off the back of the roof of mouth from the throat), the uvula (the little body hanging from the middle of the palate in the back of the mouth), and the bands on either side of the back of the mouth at its junction with the throat, then the case is probably one of diphtheria. But it is often a day or two before the white deposit forms, the throat at first being simply reddened. The fever in diphtheria is usually not high (often not over 100° to 102° F.), and the headache, backache, and pains in the limbs are not so marked as in tonsillitis.

MEMBRANOUS CROUP.—Membranous croup is diphtheria of the lower part of the throat (larynx), in the region of the Adam's apple. If in a case of what appears to be ordinary croup (p. 83) the symptoms are not soon relieved by treatment, or if any membrane is coughed up, or if, on inspection of the throat, it is possible to see any evidence of white spots or membrane, then a physician's services are imperative.

It is not very uncommon for patients with mild forms of diphtheria to walk about and attend to their usual duties and, if children, to go to school, and in that inviting field to spread the disease. These cases may present a white spot on one tonsil, or in other cases have what looks to be an ordinary sore throat with a simple redness of the mucous membrane. Sore throats in persons who have been in any way exposed to diphtheria, and especially sore throats in children

Hoarseness

under such circumstances, should always be subjected to microscopical examination in the way we have alluded to before, for the safety of both the patient and the public.

There is still another point perhaps not generally known and that is the fact that the germs of diphtheria may remain in the throat of a patient for weeks, and even months, after all signs in the throat have disappeared and the patient seems well. In such cases, however, the disease can still be communicated in its most severe form to others. Therefore, in all cases of diphtheria, examination of the secretion in the throat must show the absence of diphtheria germs before the patient can rightfully mix with other people.

Gargling and swabbing the throat with the (poisonous) solution of bichloride of mercury, 1 part to 10,000 parts of water (none of which must be swallowed), should be employed every three or four hours each day till the germs are no longer found in the mucus of the tonsils.

HOARSENESS (*Acute Laryngitis*).—This is an acute inflammation of the mucous membrane of the larynx. The larynx is that part of the throat, in the region of the Adam's apple, which incloses the vocal cords and other structures used in speaking. Hoarseness is commonly due to extension of catarrh from the nose in cold in the head and *grippe*. It also follows overuse of the voice in public speakers and singers, and is seen after exposure to dust, tobacco, or

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other smoke, and very commonly in those addicted to alcohol.

Symptoms.—Hoarseness is the first symptom noticed, and perhaps slight chilliness, together with a prickling or tickling sensation in the throat. There is a hacking cough and expectoration of a small amount of thick secretion. There may be slight difficulty in breathing and some pain in swallowing. The patient feels generally pretty well, and is troubled chiefly by impairment of the voice, which is either husky, reduced to a mere whisper, or entirely lost. This condition lasts for some days or, rarely, even weeks. There may be a mild degree of fever at the outset (100° to 101° F.). Very uncommonly the breathing becomes hurried and embarrassed, and swallowing painful, owing to excessive swelling and inflammation of the throat, so much so that a surgeon's services become imperative to intube the throat or to open the windpipe, in order to avoid suffocation. This serious form of laryngitis may follow colds, but more often is brought about by swallowing very hot or irritating liquids, or through exposure to fire or steam. In children, after slight hoarseness for a day or two, if the breathing becomes difficult and is accompanied by a crowing or whistling sound, with blueness of the lips and signs of impending suffocation, the condition is very suggestive of membranous croup (a form of diphtheria), which certainly is the case if any white, membranous deposit can be either seen in the throat or is

Hoarseness

coughed up. Whenever there is difficulty of breathing and continuous hoarseness, in children or adults, the services of a competent physician are urgently demanded.

Treatment.—The use of cold is of advantage. Cracked ice may be held in the mouth, ice cream can be employed as part of the diet, and an ice bag may be applied to the outside of the throat. The application of a linen or flannel cloth to the throat wrung out of cold water and covered with oil silk or water-proof material, is also beneficial, and often more convenient than an ice bag. The patient must absolutely stop talking and smoking. If the attack is at all severe, he should remain in bed. If not so, he must stay indoors. At the beginning of the disorder a teaspoonful of paregoric and twenty grains of sodium bromide are to be taken in water every three hours, by an adult, until three doses are swallowed.

Inhalation of steam from a pitcher containing boiling water is to be recommended. Fifteen drops of compound tincture of benzoin poured on the surface of a cup of boiling water increases the efficacy of the steam inhalation. The head is held above the pitcher, a towel covering both the head and pitcher to retain the vapor.

The employment, every two hours, of a spray containing menthol and camphor (of each, ten grains) dissolved in alboline (two ounces) should be continued throughout the disease. If the hoarseness persists and

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tends to become chronic, it is most advisable for the patient to consult a physician skilled in such diseases for local examination and special treatment.

CROUP.—Croup is an acute laryngitis of childhood, usually occurring between the ages of two and six years. The nervous element is more marked than in adults, so that the symptoms appear more alarming. The trouble frequently arises as part of a cold, or as a forerunner of a cold, and often is heralded by some hoarseness during the day, increasing toward night. The child may then be slightly feverish (temperature not over 102° F., usually). The child goes to bed and to sleep, but awakens, generally between 9 and 12 P.M., with a hard, harsh, barking cough (croupy cough) and difficulty in breathing. The breathing is noisy, and when the air is drawn into the chest there is often a crowing or whistling sound produced from obstruction in the throat, due to spasm of the muscles and to dried mucus coating the lining membrane, or to swelling in the larynx. It is impossible to separate these causes. The child is frightened, as well as his parents, and cries and struggles, which only aggravates the trouble. The worst part of the attack is, commonly, soon over, so that as a rule the doctor arrives after it is past. While it does last, however, the household is more alarmed than, perhaps, by any other common ailment.

Death from an attack of croup, pure and simple, has probably never occurred. The condition described

Croup

may continue in a less urgent form for two or three hours, and very rarely reappears on following nights or days. The child falls asleep and awakens next morning with evidences of a cold and cough, which may last several days or a week or two.

The only other disease with which croup is likely to be confused is membranous croup (diphtheria of the larynx), and in the latter disorder the trouble comes on slowly, with hoarseness for two or three days and gradually increasing fever (103° to 105° F.) and great restlessness and difficulty in breathing, not shortly relieved by treatment, as in simple croup. In fifty per cent of the cases of membranous croup it is possible to see a white, membranous deposit on the upper part of the throat by holding the tongue down with a spoon handle and inspecting the parts with a good light.

Croup is more likely to occur in children suffering from adenoids, enlarged tonsils, indigestion, and decayed teeth, and is favored by dry, furnace heat, by exposure to cold, and by screaming and shouting out of doors.

Treatment.—Place the child in a warm bath (101° F.) and hold a sponge soaked in hot water over the Adam's apple of the throat, changing it as frequently as it cools. Hot camphorated oil rubbed over the neck and chest aids recovery. If the bowels are not loose, give a teaspoonful of castor oil or one or two grains of calomel. The most successful remedies

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are ipecac and paregoric. It is wise to keep both on hand with children in the house. A single dose of paregoric (fifteen drops for child of two years; one teaspoonful for child of seven years) and repeated doses of syrup of ipecac (one-quarter to one-half teaspoonful) should be given every hour till the child vomits and the cough loosens, and every two hours afterwards. The generation of steam near the child also is exceedingly helpful in relieving the symptoms. A kettle of water may be heated over a lamp. A rubber or tin tube may be attached to the spout of the kettle and carried under a sort of sheet tent, covering the child in bed. The tent must be arranged so as to allow the entrance of plenty of fresh air. Very rarely the character of the inflammation in croup changes, and the difficulty in breathing, caused by swelling within the throat, increases so that it is necessary to employ a surgeon to pass a tube down the throat into the larynx, or to open the child's windpipe and introduce a tube through the neck to prevent suffocation.

The patient recovering from croup should generally be kept in a warm, well-ventilated room for a number of days after the attack, and receive syrup of ipecac three or four times daily, until the cough is loosened. If ipecac causes nausea or vomiting, the dose must be reduced. The disease is prevented by a simple diet, especially at night; by the removal of enlarged tonsils and adenoids; by daily sponging, before breakfast, with water as cold as it comes from the

Croup

faucet, while the child stands, ankle deep, in hot water; and by an out-of-door existence with moderate school hours; also by evaporating water in the room during the winter when furnace heat is used. When children show signs of an approaching attack of croup, give three doses of sodium bromide (five grains for child two years old; ten grains for one eight years old) during the day at two-hour intervals and give a warm bath before bedtime. and rub chest and neck with hot camphorated oil.

CHAPTER III

The Lungs and Bronchial Tubes

*Meaning of Bronchitis—Symptoms and Treatment—Remedies for
Infants—Pneumonia—Consumption the Great Destroyer—
Asthma—La Grippe.*

COUGH (*occurring in Bronchitis, Pneumonia, Consumption or Tuberculosis, Asthma, and Influenza or Grippe*).—Cough is a symptom of many disorders. It may be caused by irritation of any part of the breathing apparatus, as the nose, throat, windpipe, bronchial tubes, and (in pleurisy and pneumonia) covering membrane of the lung. The irritation which produces cough is commonly due either to congestion of the mucous membrane lining the air passages (in early stage of inflammation of these tissues), or to secretion of mucus or pus blocking them, which occurs in the later stages.

Cough is caused by a sudden, violent expulsion of air from the chest following the drawing in of a deep breath. A loose cough is to be encouraged, as by its means mucus and other discharge is expelled from the air passages.

A dry cough is seen in the early stages of various respiratory diseases, as bronchitis, pneumonia, pleurisy, consumption, whooping cough, and with irritation

Cough

from enlarged tonsils and adenoids (see p. 61) occurring in children.

Irritation produced by inhaling dust, or any irritation existing in the nose, ear, or throat may lead to this variety of cough. The dry cough accomplishes no good, and if continuous and excessive may do harm, and demands medicinal relief.

Bronchitis.—Cough following or accompanying cold in the head and sore throat generally means bronchitis.

The larynx or lower part of the throat ends just below the "Adam's apple" in the windpipe. The windpipe is about four and a half inches long and three-quarters to an inch in diameter, and terminates by dividing into the two bronchial tubes in the upper part of the chest. Each bronchial tube divides and subdivides in turn like the branches of a tree, the branches growing more numerous and smaller and smaller until they finally end in the microscopic air sacs or air cells of the lungs. The bronchial tubes convey air to the air cells, and in the latter the oxygen is absorbed into the blood, and carbonic acid is given up. Bronchitis is an inflammation of the mucous membrane lining these tubes. In cough of an ordinary cold only the mucous membrane of the windpipe and, perhaps, of the larger tubes is inflamed. This is a very mild disorder compared to inflammation of the smaller and more numerous tubes.

In bronchitis, besides the ordinary symptoms of a

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severe cold in the head, as sneezing, running of mucus from the nose, sore throat and some hoarseness perhaps, and languor and soreness in the muscles, there is at first a feeling of tightness, pressure, and rawness in the region of the breastbone, with a harsh, dry cough. The coughing causes a strain of the diaphragm (the muscle which forms the floor of the chest), so that there are often pain and soreness along the lower borders of the chest where the diaphragm is attached to the inside of the ribs. After a few days the cough becomes looser, greatly to the patient's comfort, and a mixture of mucus and pus is expectorated. In a healthy adult such a cough is usually not in itself a serious affair, and apart from the discomfort of the first day or two, there is not sufficient disturbance of the general health to interfere with the ordinary pursuits. The temperature is the best guide in such cases; if it is above normal ($98\frac{3}{8}^{\circ}$ F.) the patient should stay indoors. In infants, young children, enfeebled or elderly people, bronchitis may be a serious matter, and may be followed by pneumonia by extension of the inflammation from the small bronchial tubes into the air sacs of the lungs, and infection with the pneumonia germ. The principal signs of severe attacks of bronchitis are rapid breathing, fever, and rapid pulse.

The normal rate of breathing in adults is seventeen a minute, that is, seventeen inbreaths and seventeen outbreaths. In children of one to five years the normal

Cough

rate is about twenty-six breathing movements a minute. In serious cases of bronchitis the rate may be twenty-five to forty in adults, or forty to sixty in children, per minute.

Of course the only exact way of learning the nature of a chest trouble is thorough, careful examination by a physician, for cough, fever, rapid breathing and rapid pulse occur in many other diseases besides bronchitis, particularly pneumonia.

Pneumonia begins suddenly, often with a severe chill, headache, and general pains like *grippe*. In a few hours cough begins, short and dry, with violent, stabbing pain in one side of the chest, generally near the nipple. The breathing is rapid, with expanding nostrils, the face is anxious and often flushed. The matter coughed up at first is often streaked with blood, and is thick and like jelly. The temperature is often 104° – 105° F.

If the disease proceeds favorably, at the end of five, seven, or ten days the temperature, breathing, and pulse become normal suddenly, and the patient rapidly emerges from a state of danger and distress to one of comfort and safety. The sudden onset of pneumonia with chill, agonizing pain in side, rapid breathing, and often delirium with later bloody or rusty-colored, gelatinous expectoration, will then usually serve to distinguish it from bronchitis, but not always.

Whenever, with cough, rapid and difficult breathing occur with rise of temperature (as shown by the ther-

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mmeter) and rapid pulse, the case is serious, and medical advice is urgently demanded.

Treatment of Acute Cough and Bronchitis.—In the case of healthy adults with a cough accompanying an ordinary cold, the treatment is very simple, when there is little fever or disturbance of the general health. The remedies recommended for cold in the head (p. 55) should be taken at first. It is also particularly desirable for the patient to stay in the house, or better in bed, for the first day or two, or until the temperature is normal.

The feeling of tightness and distress in the chest may be relieved by applying a mild mustard paper over the breastbone, or a poultice containing mustard, one part, and flour, three parts, mixed with warm water into a paste and spread between two single thicknesses of cotton cloth about eight inches square. The tincture of iodine painted twice over a similar area forms another convenient application instead of the mustard. If the cough is excessive and troublesome at night the tablets of "ammonium chloride compound with codeine" are convenient. One may be taken every hour or two by an adult, till relieved.

Children suffering from a recent cough and fever should be kept in bed while the temperature is above normal. It is well to give infants at the start a grain of calomel or half a teaspoonful of castor oil, and to children of five to eight years double the dose.

The chest should be rubbed with a liniment com-

Cough

posed of one part of turpentine and two parts of camphorated oil. It is well also to apply a jacket made of sheet cotton over the whole chest. It is essential to keep the room at a temperature of about 70° F. and well ventilated, not permitting babies to crawl on the floor when able to be up, or to pass from a warm to a cold room. Sweet spirit of niter is a serviceable remedy to use at the beginning: five to fifteen drops every two hours in water for a child from one to ten years of age, for the first day or two.

If the cough is harsh, hard, or croupy (see p. 83), give syrup of ipecac every two hours: ten drops to an infant of one year or under, thirty drops to a child of ten years, unless it causes nausea or vomiting, when the dose may be reduced one-half. If children become "stuffed up" with secretion so that the breathing is difficult and noisy, give a teaspoonful of the syrup of ipecac to make them vomit, for until they are six or seven years old children cannot expectorate, and mucus which is coughed up into the mouth is swallowed by them. Vomiting not only gets rid of that secretion which has been swallowed, but expels it from the bronchial tubes. This treatment may be repeated if the condition recurs.

In infants under a year of age medicine is to be avoided as much as possible. A teaspoonful of sweet oil and molasses, equal parts, may be given occasionally to loosen the cough in mild cases. In other cases use the cough tablet for infants described on p. 91. A

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paste consisting of mustard, one part, and flour, twenty parts, is very useful when spread on a cloth and applied all about the chest, front and back. The diet should be only milk for young children during the first day or two, and older patients should not have much more than this, except toast and soups. In feeble babies with bronchitis it is wise to give five or ten drops of brandy or whisky in water every two hours, to relieve difficulty in breathing.

Children who are subject to frequent colds, or those in whom cough is persistent, should receive Peter Möller's cod-liver oil, one-half to one teaspoonful, according to age, three times daily after eating. One of the emulsions may be used instead if the pure oil is unpalatable. Adenoids and enlarged tonsils are a fruitful source of constant colds and sore throat, and their removal is advisable (see p. 61). Hardening of the skin by daily sponge baths with cold salt water, while the child stands or sits in warm water, is effective as a preventive of colds, as is also an out-of-door life with proper attention to clothing and foot gear.

Treatment of Pneumonia.—Patients developing the symptoms described as suggestive of pneumonia need the immediate attention of a physician. If a person is unfortunate enough to have the care of such a case, when it is impossible to secure a physician, it may afford some comfort to know that good nursing is really the prime requisite in aiding recovery, while

Cough

skillful treatment is of most value if complications arise.

One in every ten cases of pneumonia in ordinarily healthy people proves fatal. In specially selected young men, as soldiers, the death rate from pneumonia is only one in twenty-five cases. On the other hand, pneumonia is the common cause of death in old age; about seventy out of every hundred patients who die from pneumonia are between sixty and eighty years of age. Infants under a year old, and persons enfeebled with disease or suffering from excesses, particularly alcoholism, are also likely to die if stricken with the disease.

The patient should go to bed in a large, well-ventilated, and sunny room. The temperature of the room should be about 70° F., and the patient must not be covered so warmly with clothing as to cause perspiration. A flannel jacket may be made to surround the chest, and should open down the whole front. The nightshirt is worn over this; nothing more. Daily sponging of the patient with tepid water (85° to 90° F.) should be practiced. The body is not to be all exposed at once, but each limb and the trunk are to be separately sponged and dried. If the fever is high (104° F.) the water should be cold (77° to 72° F.), and the sponging done every three hours in the case of a strong patient. Visitors must be absolutely forbidden. No more than one or two persons are to be allowed in the sick room at once.

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The diet should consist chiefly of milk, a glass every two hours, varied with milk mixed with thin cooked cereal or eggnog. It is wise to give at the beginning of the disease a cathartic, such as five grains of calomel followed in twelve hours by a Seidlitz powder, if the bowels do not act freely before that time. To relieve the pain in the side, if excruciating, give one-quarter grain morphine sulphate,¹ and repeat once, if necessary, in two hours. The application of an ice bag to the painful side frequently stops the pain, and, moreover, is excellent treatment throughout the course of the disease. The seat of pain usually indicates that the lung on that side is the inflamed one, so that the ice bag should be allowed to rest against that portion of the chest. Water should be freely supplied, and should be given as well as milk even if the patient is delirious.

The bowels are to be moved daily by glycerin suppositories or injection of warm water. Dover's powder in doses of five grains is useful to assuage cough. It may be repeated once, after two hours' interval if desirable, but must not be employed at the same time as morphine. After the first two or three days are passed, or sooner in weak subjects, give strychnine sulphate, one-thirtieth grain, every six hours in pill or tablet form. The strychnine is to be continued until the temperature becomes normal, and then reduced about one-half in amount for a week or ten days

¹ Caution. Dangerous. Use only on physician's order.

Consumption

while the patient remains in bed, as he must for some time after the temperature, pulse, and breathing have become normal.

CONSUMPTION; TUBERCULOSIS OF THE LUNGS; PHTHISIS.—This disease demands especial attention, not only because it is above all others the great destroyer of human life, causing one-seventh of all deaths, but because, so far from being a surely fatal disease as popularly believed, it is an eminently curable disorder if recognized in its earliest stage. The most careful laboratory examinations of bodies dead from other causes, show that very many people have had tuberculosis at some time, and to some extent, during life. The reason why the disease fails to progress in most persons is that the system is strong enough to resist the inroads of the disease. The process becomes arrested by the germs being surrounded by a barrier of healthy tissue, and so perishing in their walled-in position. These facts prove that so far from being incurable, recovery from consumption frequently occurs without even our knowledge of the disease. It is only those cases which become so far advanced as to be easily recognized that are likely to result fatally. Many more cases of consumption are now cured than formerly, because exact methods have been discovered which enable us to determine the existence of the disease at an early stage of its development.

Consumption is due to the growth of a special germ in the lungs. The disease is contagious, that is, it is

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capable of being communicated from a consumptive to a healthy person by means of the germs present in the sputum (expectoration) of the patient. The danger of thus acquiring the disease directly from a consumptive is slight, if one take simple precautions which will be mentioned later, except in the case of a husband, wife, or child of the patient who come in close personal contact, as in kissing, etc. This is proved by the fact that attendants in hospitals for consumptives, who devote their lives to the care of these patients, are rarely affected with consumption. The chief source of danger to persons at large is dust containing the germs derived from the expectoration of human patients, and thus finding entrance into the lungs.

Consumption is said to be inherited. This is not the case, as only most rarely is an infant born actually bearing the living germs of the disease in its body. A tendency to the disease is seen in certain families, and this tendency may be inherited in the sense that the lung tissue of these persons possesses less resistance to the growth of the germ of consumption. It may well be, however, that the children of consumptive parents, as has been suggested, are more resistant to the disease through inherited immunity (as is seen in the offspring of parents who have had other contagious diseases), and that the reason that they more often acquire tuberculosis is because they are constantly exposed to contact with the germ of consumption in their everyday home life.

Consumption

It is known that there are certain occupations and diseases which render the individual more susceptible to consumption. Thus, stone cutters, knife grinders and polishers, on account of inhaling the irritating dust, are more liable to the disease than any other class. Plasterers, cigar makers, and upholsterers are next in order of susceptibility for the same reason; while out-of-door workers, as farmers, are less likely to contract consumption than any other body of workers except bankers and brokers. Among diseases predisposing to consumption, ordinary colds and bronchitis, influenza, pneumonia, measles, nasal obstruction causing mouth-breathing, and scarlet fever are the most important.

No age is exempt, from the cradle to the grave, although the liability to the disease diminishes markedly after the age of forty.

About one-third more women than men recover from consumption, probably because it is more practicable for them to alter their mode of life to suit the requirements of treatment.

It is, then, the neglected cold and cough (bronchitis) which offers a field most commonly favorable for the growth of the germs in the lungs which cause consumption. And it is essential to discover the existence of the disease at its beginning, what is called the incipient stage, in order to have the best chance of recovery. It becomes important, therefore, that each individual know the signs and symptoms which suggest beginning consumption.

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Cough is the most constant early symptom, dry and hacking at first, and most troublesome at night and in the early morning. Expectoration comes later. Loss of weight, of strength, and of appetite are also important early symptoms. Dyspepsia with cough and loss of weight and strength form a common group of symptoms. The patient is pale, has nausea, vomiting, or heartburn, and there is rise of temperature in the afternoon, together with general weakness; and, in women, absence of monthly periods. Slight daily rise of temperature, usually as much as a half to one degree, is a very suspicious feature in connection with chronic cough and loss of weight. To test the condition, the temperature should be taken once in two hours, and will commonly be found at its highest about 4 P.M., daily. The pulse is also increased in frequency. Night sweats are common in consumption, but not as a rule in the first stage; they occur more often in the early morning hours.

Chills, fever, and sweating are sometimes the first symptoms of consumption, and in a malarial region would very probably lead to error, since these symptoms may appear at about the same intervals as in ague. But the chills and fever are not arrested by quinine, as in malaria, and there are also present cough and loss of weight, not commonly prominent in malaria. Persistently enlarged glands, which may be felt as lumps beneath the skin along the sides of the neck, or in the armpits, should be looked upon with sus-

Consumption

picion as generally tuberculous, containing the germ of consumption. They certainly demand the attention of early removal by a surgeon.

The spitting of bright-red blood is one of the most certain signs of consumption, and occurs in about eighty per cent of all cases, but rarely appears as an early warning. The pupils of the eyes may be constantly large at the onset of the disease, but this is a sign of general weakness. Pain is also a frequent but not constant early symptom in the form of "stitch in the side," or pain between or beneath the shoulder blades, or in the region of the breastbone. This pain is due to pleurisy accompanying the tuberculosis. Shortness of breath on exertion is present when consumption is well established, but is not so common as an early symptom. The voice is often somewhat hoarse or husky at the onset of consumption, owing to tuberculous laryngitis.

To sum up then, one should always suspect tuberculosis in a person afflicted with chronic cough who is losing weight and strength, especially if there is fever at some time during the day and any additional symptoms, such as those described. Such a one should immediately apply to a physician for examination of the chest, lungs, and sputum (expectoration). If the germs of tuberculosis are found on microscopical inspection of the sputum, the existence of consumption is absolutely established. Failure to find the germs in this way does not on the other hand prove that the

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patient is free from the disease, except after repeated examinations at different times, together with the inability to discover any signs by examination of the chest. This examination in some instances produces no positive results, and it may be impossible for the physician to discover anything wrong in the lungs at the commencement of consumption. But, generally, examination either of the lungs or of the sputum will decide the matter, one or both giving positive information.

The use of the X-rays in the hands of some experts sometimes reveals the presence of consumption before it is possible to detect it by any other method. There is also a substance called tuberculin, which, when injected under the skin in suspected cases of consumption causes a rise of temperature in persons suffering from the disease, but has no effect on the healthy. This method is that commonly applied in testing cattle for tuberculosis. As the results of tuberculin injection in the consumptive are something like an attack of *grippe*, and as tuberculin is not wholly devoid of danger to these patients, this test should be reserved to the last, and is only to be used by a physician.

Treatment.—There is no special remedy at our disposal which will destroy or even hinder the growth of the germs of tuberculosis in the lungs. Our endeavors must consist in improving the patient's strength, weight, and vital resistance to the germs by proper feeding, and by means of a constant out-of-door life.

Consumption

The ideal conditions for out-of-door existence are pure air and the largest number of sunshiny days in the year. Dryness and an even temperature, and an elevation of from 2,000 to 3,000 feet, are often serviceable, but not necessarily successful.

When it is impossible for the patient to leave his home he should remain out of doors all hours of bright days, ten to twelve hours daily in summer, six to eight hours in winter without regard to temperature, and should sleep on a porch or on the roof, if possible. In the Adirondacks, patients sit on verandas with perfect comfort while the thermometer is at ten degrees below zero. A patient (a physician) in a Massachusetts sanitarium has arranged a shelf, protected at the sides, along the outside of a window, on which his pillow rests at night, while he sleeps with his head out of doors and his body in bed in a room inside. If it becomes stormy he retires within and closes the window. If the temperature ranges above 100° F. patients should rest in bed or on a couch in the open air, but, if below this, patients may exercise. A steamer chair set inside of a padded, wicker bath chair, from which the seat has been removed, makes a convenient protected arrangement in which a consumptive can pass his time out of doors. If the patient is quite weak and feverish he may remain in bed, or on a couch, placed on a veranda or balcony during the day, and in a room in which all the windows are open at night. Screens may be used to protect from direct draughts.

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No degree of cold, nor any of the common symptoms, as night sweats, fever, cough, or spitting of blood, should be allowed to interfere with this fresh-air treatment. The treatment may seem heroic, but is most successful. The patient must be warmly clothed or covered with blankets, and protected from strong winds, rain, and snow. During clear weather patients may sleep out of doors on piazzas, balconies, or in tents.

Nutritious food is of equal value with the open-air life. A liberal diet of milk and cream, eggs, meat and vegetables is indicated. Raw eggs swallowed whole with a little sherry, or pepper and salt on them, may be taken between meals, beginning with one and increasing the number till three are taken at a time, or nine daily. If the appetite is very poor it is best that a glass of milk be taken every two hours, varied by white of egg and water and meat juice. Drug treatment depends on individual symptoms, and can, therefore, only be given under a physician's care. Sanitarium treatment is the most successful, because patients are under the absolute control of experts and usually in an ideal climate. Change of climate is often useful, but patients should not leave their homes without the advice of a competent physician, as there are many questions to consider in taking such a step.¹ There is a growing tendency among physicians to give

¹ Arizona, New Mexico, Colorado, and the Adirondacks contain the most favorable climatic resorts in this country.

Asthma

consumptives out-of-door treatment at their homes, if living out of cities, as careful personal supervision gives much better results than a random life in a popular climatic resort.

Prevention.—Weakly children and those born of consumptives must receive a generous diet of milk, eggs, meat, and vegetables, and spend most of their time in the open air. Their milk should be heated for fifteen minutes to a temperature of 160° F., in order to kill any germs of tuberculosis, unless the cows have been tested for this disease. The patient must have a separate sleeping room, and refrain from kissing or caressing other members of the family.

The care of the sputum (expectoration) is, however, the essential means of preventing contagion. Out of doors, it should be deposited in a bottle which is cleaned by rinsing in boiling water. Indoors, paper bags or paper boxes made for the purpose are used to receive the sputum, and burned before they become dry. The use of rags, handkerchiefs, and paper napkins is dirty, and apt to cause soiling of the hands and clothes and lead to contagion. Plenty of sunlight in the sick room will cause destruction of the germs of consumption, besides proving beneficial to the patient. No dusting is to be done in the invalid's room; only moist cleansing. All dishes used by a consumptive must be boiled before they are again employed.

ASTHMA.—This is a disorder caused by sudden narrowing of the smaller air tubes in the lungs. This

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narrowing is produced by swelling of the mucous membrane lining them, or is due to contraction of the tubes through reflex nervous influences. It may accompany bronchitis, or may be uncomplicated. It may be a manifestation of gout.

The sufferers from asthma are usually apparently well in the period between the attacks. The attack often comes on suddenly in the night; the patient waking with a feeling of suffocation. The difficulty in breathing soon becomes so great that he has to sit up, and often goes to a window and throws it open in the attempt to get his breath. The breathing is very labored and panting. There is little difficulty in drawing the breath, but expiration is very difficult, and usually accompanied by wheezing or whistling sounds. The patient appears to be on the brink of suffocation; the eyeballs protrude; the face is anxious and pale; the muscles of the neck stand out; the lips may be blue; a cold sweat covers the body; the hands and feet are cold, and talking becomes impossible. Altogether, a case of asthma presents a most alarming appearance to the bystander, and the patient seems to be on the verge of dying, yet death has probably never occurred during an attack of this disease. The attacks last from one-half to one or several hours, if not stopped by treatment, and they often return on several successive nights, and then disappear, not to recur for months or years.

Attacks are brought on by the most curious and

Asthma

diverse means. Atmospheric conditions are most important. Emanations from plants, or animals, are common exciting agencies. Fright or emotion of any kind; certain articles of diet; dust and nasal obstruction are also frequent causes. Patients may be free from the disease in cities and attacked on going into the country. Men are subject to asthma more than women, and the victims belong to families subject to nervous troubles of various kinds. The attack frequently subsides suddenly, just when the patient seems to be on the point of suffocation. There is often coughing and spitting of little yellowish, semitransparent balls of mucus floating in a thinner secretion.

Asthma is not likely to be mistaken for other diseases. The temperature is normal during an attack, and this will enable us to exclude other chest disorders, as bronchitis and pneumonia. Occasionally asthma is a symptom of heart and kidney disease. In the former it occurs after exercise; in the latter the attack continues for a considerable time without relief. But, as in all other serious diseases, a physician's services are essential, and it is our object to supply only such information as would be desirable in emergencies when it is impossible to obtain one.

Treatment.—An attack of asthma is most successfully cut short by means of one-quarter of a grain of morphine sulphate¹ with $\frac{1}{20}$ of a grain of atropine sulphate, taken in a glass of hot water containing a ta-

¹ Caution. Dangerous. Use only on physician's order.

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blespoonful of whisky or brandy. Ten drops of laudanum,¹ or a tablespoonful of paregoric, may be used instead of the morphine if the latter is not at hand. Sometimes the inhalation of tobacco smoke from a cigar or pipe will stop an attack in those unaccustomed to its use. In the absence of morphine, or opium in the form of laudanum or paregoric, fifteen drops of chloroform or half a teaspoonful of ether may be swallowed on sugar.

A useful application for use on the outside of the chest consists of mustard, one part, and flour, three parts, mixed into a paste with warm water and placed between single thicknesses of cotton cloth. Various cigarettes and pastilles, usually containing stramonium and saltpeter, are sold by druggists for the use of asthmatic patients. They are often efficient in arresting an attack of asthma, but it is impossible to recommend any one kind, as one brand may agree with one patient better than another. Amyl nitrite is sold in "pearls" or small, glass bulbs, each containing three or four drops, one of which is to be broken in and inhaled from a handkerchief during an attack of asthma. This often affords temporary relief.

To avoid the continuance of the disease it is emphatically advisable to consult a physician who may be

¹ This dose is only suitable for strong, healthy adults of average weight and those who are not affected peculiarly by opium. Delicate women and others not coming under the above head should take but half the dose and repeat in an hour if necessary.

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able to discover and remove the cause. The diet should consist chiefly of eggs, fish, milk, and vegetables (with the exception of beans, large quantities of potatoes, and roots, as parsnips, beets, turnips, etc.). Meat should be eaten but sparingly, and also pastries, sugar, and starches (as cereals, potato, and bread). The evening meal ought to be light, dinner being served at mid-day. Any change of climate may stop asthmatic seizures for a time, but the relief is apt to be temporary. Climatic conditions affect different patients differently. Warm, moist air in places destitute of much vegetation (as Florida, Southern California, and the shore of Cape Cod and the Island of Nantucket, in summer) enjoy popularity with many asthmatics, while a dry, high altitude influences others much more favorably.

INFLUENZA; LA GRIPPE.—Influenza is an acute, highly contagious disease due to a special germ, and tending to spread with amazing rapidity over vast areas. It has occurred as a world-wide epidemic at various times in history, and during four periods in the last century. A pandemic of influenza began in the winter of 1889-90, and continued in the form of local epidemics till 1904, the disease suddenly appearing in a community and, after a prevalence of about six weeks, disappearing again. One attack, it is, perhaps, unnecessary to state, does not protect against another. The mortality is about 1 death to 400 cases. The feeble and aged are those who are apt

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to succumb. Fatalities usually result from complications or sequels, such as pneumonia or tuberculosis; neurasthenia or insanity may follow.

Symptoms.—There are commonly four important symptoms characteristic of *grippe*: fever; pain, catarrh; and depression, mental and physical. *Grippe* attacks the patient with great suddenness. While in perfect health and engaged in ordinary work, one is often seized with a severe chill followed by general depression, pain in the head, back, and limbs, soreness of the muscles, and fever. The temperature varies from 100° to 104° F. The catarrh attacks the eyes, nose, throat, and larger tubes in the lungs. The eyes become reddened and sensitive to light, and movements of the eyeballs cause pain. Sneezing comes on early, and, after a day or two, is followed by discharge from the nose. The throat is often sore and reddened. There may be a feeling of weight and tightness in the chest accompanied by a harsh, dry cough, which, after a few days, becomes looser and expectoration occurs. Bodily weakness and depression of spirits are usually prominent and form often the most persistent and distressing symptoms.

After three or four days the pains decrease, the temperature falls, and the cough and oppression in the chest lessen, and recovery usually takes place within a week, or ten days, in serious cases. The patient should go to bed at once, and should not leave it until the temperature is normal (98 $\frac{3}{8}$ ° F.). For some time

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afterwards general weakness, associated with heart weakness, causes the patient to sweat easily, and to get out of breath and have a rapid pulse on slight exertion.

Such is the picture of a typical case, but it often happens that some of the symptoms are absent, while others are exaggerated so that different types of *grippe* are often described. Thus the pain in the back and head may be so intense as to resemble that of meningitis. Occasionally the stomach and bowels are attacked so that violent vomiting and diarrhea occur, while other members of the same family present the ordinary form of influenza. There is a form that attacks principally the nervous system, the nasal and bronchial tracts escaping altogether. Continual fever is the only symptom in some cases. *Grippe* may last for weeks. Whenever doubt exists as to the nature of the disorder, a microscopic examination of the expectoration or of the mucus from the throat by a competent physician will definitely determine the existence of influenza, if the special germs of that disease are found. It is the prevailing and erroneous fashion for a person to call any cold in the head the *grippe*; and there are, indeed, many cases in which it becomes difficult for a physician to distinguish between *grippe* and a severe cold with muscular soreness and fever, except by the microscopic test. Influenza becomes dangerous chiefly through its complications, as pneumonia, inflammation of the middle ear, of the eyes, or of the

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kidneys, and through its depressing effect upon the heart.

These complications can often be prevented by avoiding the slightest imprudence or exposure during convalescence. Elderly and feeble persons should be protected from contact with the disease in every way. Whole prisons have been exempt from *grippe* during epidemics, owing to the enforced seclusion of the inmates. The one absolutely essential feature in treatment is that the patient stay in bed while the fever lasts and in the house afterwards, except as his strength will permit him to go out of doors for a time each sunny day until recovery is fully established.

Treatment.—The medicinal treatment consists at first in combating the toxin of the disease and assuaging pain, and later in promoting strength. Hot lemonade and whisky may be given during the chilly period and a single six- to ten-grain dose of quinine. Pain is combated by phenacetin,¹ three grains repeated every three hours till relieved. At night a most useful medicine to afford comfort when pain and sleeplessness are troublesome, is Dover's powder, ten grains (or codeine, one grain), with thirty grains of sodium bromide dissolved in water. After the first day it is usually advisable to give a two-grain quinine pill together with a tablet containing one-thirtieth of a grain of strychnine three times a day after meals for a week or two as a tonic (adult). Only mild cathartics are

¹ Caution. A powerful medicine.

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suitable to keep the bowels regular as a Seidlitz powder in the morning before breakfast. The diet should be liquid while the fever lasts—as milk, cocoa, soups, eggnog, one of these each two hours. A tablespoonful of whisky, rum, or brandy may be added to the milk three times daily if there is much weakness.

The germ causing *grippe* lives only two days, but successive crops of spores are raised in a proper medium. Neglected mucus in nose or throat affords an inviting field for the germ. Therefore it is essential to keep the nostrils free and open by means of spraying with the Seiler's tablet solution (p. 49), and then always breathing through the nostrils.

CHAPTER IV

Headaches

Treatment of Sick Headache—Effects of Indigestion—Neuralgia—Headaches Occasioned by Disease—Other Causes—Poisoning—Heat Stroke.

HEADACHE varies according to its nature and causes. The first variety to be considered is "sick headache" or migraine.

SICK HEADACHE.—This is a peculiar, one-sided headache which takes the form of severe, periodic attacks or paroxysms, and is often inherited. It recurs at more or less regular intervals, as on a certain day of each week, fortnight or month, and the attacks appear and disappear at regular hours. The disorder generally persists for years and then goes away. If it begins in childhood, as it frequently does between the years of five and ten, it may stop with the coming of adult life, but if not outgrown at this time it commonly vanishes during late middle life, about the age of fifty-one in a man, or with the "change of life" in a woman. While in many instances arising without apparent cause, yet in others sick headache may be precipitated by indigestion, by eye-strain, by enlarged tonsils and adenoids in children, or by fatigue.

Sick Headache

There may be some warning of the approach of a sick headache, as mental depression, weariness, disturbances of sight, buzzing in the ears, or dizziness. The pain begins at one spot on one side of the head (more commonly the left), as in the eye, temple, or forehead, and later spreads over the whole side of the head and, in some cases, the neck and arm. The face may be pale, or pale on one side and red on the other. The headache is of a violent, boring nature, aggravated by light and noise, so that the patient is incapacitated for any exertion and is most comfortable when lying down in a quiet, dark room. Vomiting usually comes on after a while, and often gives relief. The headache lasts several hours or all day, rarely longer. The duration is usually about the same in the case of any particular individual who is suddenly relieved at a certain hour generally after vomiting, a feeling of well-being and an enormous appetite following often. Patients may feel perfectly well between the attacks, but if they occur frequently the general health suffers.

In the majority of cases there is no apparent cause discoverable save heredity, and for these the following treatment is applicable. Each case should, however, be carefully studied by a physician, if possible, as only in this way can any existing cause be found and removed.

Treatment.—Any article of diet which experience has shown to provoke an attack should naturally be

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avoided. A Seidlitz powder, or tablespoonful of Epsom salts in a glassful of water, is advisable at the onset of an attack. Rubbing the forehead with a menthol pencil will afford some relief. Hot strong tea with lemon juice is sometimes of service. To actually lessen the pain *one* of the following may be tried: phenacetin (eight grains) and repeat once in an hour if necessary until three doses are taken by an adult; or, migraine tablets, two in number, and do not repeat; or fluid extract of cannabis indica, two drops every half hour until relieved, or until six doses are taken.

HEADACHE FROM VARIOUS CAUSES.—It is impossible to decide from the location or nature of the pain alone to what variety of headache it belongs, that is, as to its cause. It is only by considering the general condition of the body that such a decision can be attained.

Headache from Indigestion.—The pain is more often in the forehead, but may be in the top or back of the head. The headache may last for hours, or “off and on” for days. Dull headache is *seen* in “biliousness” when the whites of the eyes are slightly tinged with yellow and the tongue coated and yellowish, and perhaps dizziness, disturbances of sight and a feeling of depression are present. Among other signs of headache due to indigestion are: discomfort in the stomach and bowels, constipation, nausea and vomiting, belching of wind, hiccough, and tender or painful eyeballs.

Headache from Various Causes

In a general way, treatment for this sort of headache consists in the use of a cathartic, such as calomel (three-fifths of a grain) at night, followed by a Seidlitz powder or a tablespoonful of Epsom salts in a glass of cold water in the morning. A simple diet, as very small meals of milk, bread, toast, crackers with cereals, soups, and perhaps a little steak, chop, or fresh fish for a few days, may be sufficient to complete the cure.

Sympathetic Headaches.—These are caused by irritation in various parts of the body, which is conveyed through the nervous system to the brain producing headache. Headache from eye-strain is one of this class, and probably the most common, and, therefore, most important of all headaches. There is unfortunately no sure sign by which we can tell eye-headaches from others, except examination of the eyes (see p. 29). Redness, twitching, and soreness of the eyelids, and watering of the eyes, together with headache, after their excessive use may suggest the cause in some cases. The pain may be occasioned or almost constant, and either about the eyes, forehead, top or back of the head, and often takes the form of "sick headache." The headache may at times appear to have no connection with use of the eyes. When headache is frequent the eyes should always be examined by a competent oculist (a physician) not by any sort of an optician.

Decayed Teeth.—These not uncommonly give rise to headache.

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Disorders of the Nose and Throat.—Such troubles, especially adenoids and enlarged tonsils in children, enlarged turbinates, and polypi (see *Nose Disorders*, p. 60) are fruitful sources of headache. In nose-headaches there is often tenderness on pressing on the inner wall of the bony socket inclosing the eyeball.

Diseases of the Maternal Organs.—These in women produce headache, particularly pain in the back of the head. If local symptoms are also present, as backache (low down), leucorrhœa, painful monthly periods, and irregular or excessive flowing, or trouble in urinating, then the cause of the headache is probably some disorder which can be cured at the hands of a skillful specialist in women's diseases.

Nervous Headaches.—These occur in brain exhaustion and anæmia, and in nervous exhaustion. There is a feeling of pressure or weight at the back of the head or neck, rather than real pain. This is often relieved by lying down. Headache from anæmia is often associated with pallor of the face and lips, shortness of the breath, weakness, and palpitation of the heart. Rest, abundance of sleep, change of scene, out-of-door life, nourishing food, milk, cream, butter, eggs, meat, and iron are useful in aiding a return to health (see *Nervous Exhaustion*, Vol. III, p. 17).

Neuralgic Headaches.—The pain is usually of a shooting character, and the scalp is often exceedingly tender to pressure. They may be caused by exposure

Headache from Various Causes

to cold, or by decayed teeth, or sometimes by inflammation of the middle ear (see Earache, p. 40).

Headache from Poisoning.—Persons addicted to the excessive use of tea, coffee, alcohol, and tobacco are often subject to headache from poisoning of the system by these substances. In tea, coffee, and tobacco poisoning there is also palpitation of the heart in many cases; that is, the patient is conscious of his heart beating, irregularly and violently (see Palpitation, Vol. III, p. 171), which causes alarm and distress. Cessation of the habit and sodium bromide, twenty grains three times daily, dissolved in water, administered for not more than three days, may relieve the headache and other trouble.

Many drugs occasion headache, as quinine, salicylates, nitroglycerin, and some forms of iron.

The poisons formed in the blood by germs in acute diseases are among the most common sources of headache. In these disorders there is always fever and often backache, and general soreness in the muscles. One of the most prominent symptoms in typhoid fever is constant headache with fever increasing toward night, and also higher each night than it was the night before. The headache and fever, together often with occasional nosebleed and general feeling of weariness, may continue for a week or two before the patient feels sick enough to go to bed. The existence of headache with fever (as shown by the thermometer) should always warn one of the necessity of consulting a physician.

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Headache owing to germ poisons is also one of the most distressing accompaniments of *grippe*, measles, and smallpox, and sometimes of pneumonia.

The headache caused by the poison of the malarial parasite in the blood is very violent, and the pain is situated usually just over the eye, and occurring often in the place of the paroxysm of the chill and fever at a regular hour daily, every other day, or every fourth day. If the headache is due to malaria, quinine will cure it (*Malaria*, Vol. I, p. 258). The headache of rheumatism is owing also to a special poison in the blood, and is often associated with soreness of the scalp. If there are symptoms of rheumatism elsewhere in the body, existing headache may be logically attributed to the same disease (see *Rheumatism*, p. 169).

The poison of gout circulating in the blood is sometimes a source of intense headache.

The headache of Bright's disease of the kidneys and of diabetes is dull and commonly associated with nausea or vomiting, swelling of the feet or ankles, pallor and shortness of breath in the former; with thirst and the passage of a large amount of urine (normal quantity is three pints in twenty-four hours) in the case of diabetes.

The headaches of indigestion are also of poisonous origin, the products of imperfectly digested food being absorbed into the blood and acting as poisons.

Another variety of headache due to poisoning is seen in children crowded together in ill-ventilated

Headache from Various Causes

schoolrooms and overworked. Still another kind is due to inhalation of illuminating gas escaping from leaky fixtures.

Headache from Heat Stroke.—Persons who have been exposed to excessive heat or have actually had a heat stroke (Vol. I, p. 40) are very prone to headache, which is made worse by movements of the head. Sodium bromide, twenty grains dissolved in water, may be given to advantage three times daily between meals in these cases for not more than two days. Phenacetin in eight-grain doses may also afford relief, but should not be used more often than once or twice a day.

Constant Headache.—This, afflicting the patient all day and every day, and increasing in severity at night, is suggestive of some disease of the brain, as congestion, brain tumor, or meningitis, and urgently demands skillful medical attention.

Part II

**TUMORS
SKIN DISEASES
RHEUMATISM**

BY

KENELM WINSLOW

AND

ALBERT WARREN FERRIS

CHAPTER I

Growths and Enlargements

Benign and Malignant Tumors—Treatment of Rupture—Hernia in Children—Varicocele—Causes of Varicose Veins—External and Internal Piles.

TUMORS.—A tumor—in its original meaning—signifies a swelling. As commonly used it means a new growth or enlargement of a part, which is not due to injury or inflammation. Tumors occur at all ages, in both sexes, and may attack any part of the body. Tumors are usually divided into benign and malignant growths. In a general way the malignant tumors are painful; they do not move about freely but become fixed to the adjacent parts; their growth is more rapid; they often have no well-defined borders; frequently they return after removal; the skin covering them is often attached and cannot be moved readily without also moving the tumor. Malignant tumors are divided into cancers (carcinomata) and sarcomas (sarcomata). Cancer is much more frequent than sarcoma. Cancer occurs more often in persons over thirty; there appears to be a hereditary tendency to it in some families, and a number of individuals in the same house or locality sometimes develop cancer as if

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it were in some way communicated from one to another. The common situations of cancer are the breast and womb in women, and the lip and stomach of men. The neighboring glands become enlarged, as are shown by the lumps which form under the jaw in cancer of the lip, and which may be felt sometimes in the armpit in cancer of the breast; these are, however, late signs, and the growth should never be permitted to remain long enough for them to develop. Paleness, weakness, and loss of strength often attend the development of cancer, but many do not exhibit these symptoms.

Sarcoma is often seen in the young and well nourished; it grows very rapidly; the skin is usually not adherent to the tumor; there is generally no pain; heredity has no relation to its development; paleness is absent in many cases; the favorite seats are the muscle, bone, glands of neck, brain, and many other localities; it is not nearly so common as cancer.

Cancer of the breast begins as a lump, occurring more often to the outside of the nipple, but may develop in any part. It may or may not be painful at first, but the skin becomes attached to it; and sooner or later the nipple is drawn in. It is seen in women over forty, as a rule. Lumps in the breast, occurring during the nursing period, are often due to inflammation, but these generally have no relation to cancer unless they persist for a long time. Any lump which appears in the breast without apparent cause, or which persists for a considerable time after inflam-

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mation ceases, should be promptly removed by the surgeon, as without microscopic examination the most skilled practitioners will be unable absolutely to distinguish between a harmless and malignant tumor. As even so-called benign tumors often become cancerous (e. g., inflammatory lumps in the breast, warts, and moles), an eminent surgeon (Dr. Maurice Richardson) has recently formulated the rule that all tumors, wherever situated, should if possible be removed, whatever their apparent nature. Cancer of the womb may be suspected in middle-aged women if flowing is more profuse than is usual, or occurs at irregular times; if there is a discharge (often of offensive odor) from the front passage; and sometimes pain, as backache, and perhaps paleness. Early examination should be sought at the hands of a physician; it is suicidal to delay.

Cancer of the stomach is observed more often in men over forty, and begins with loss of appetite; nausea or vomiting; vomiting of blood; pain in the stomach; loss of weight, and paleness. Some of these symptoms may be absent. Improved methods of surgery have rendered early operation for cancer of the stomach a hopeful measure, and if cure does not result, the life will be prolonged and much suffering saved.

Cancer of the lip arises as a small lump, like a wart generally, on the lower lip in men from forty to seventy. Sometimes it appears at first simply as a slight sore or crack which repeatedly scabs over but does not heal. Its growth is very slow and it may seem like

Tumors

a trivial matter, but any sore on the lower lip in a man of middle age or over, which persists, should demand the immediate attention of a surgeon, because early removal is more successful in cancer of the lip than in any other form.

There are, of course, many comparatively harmless or benign forms of tumors which will not return if removed and do not endanger life unless they grow to a large size. Among these are the soft, flattened, fatty tumors of the shoulders, back, buttocks, and other parts, and the wen. This is often seen on the head and occurs frequently on the scalp, from the size of a pea to an egg, in groups. Wens are elastic lumps, painless and of slow growth, and most readily removed. Space does not permit us to recount the other forms of benign tumors and it would be impossible to describe how they could be distinguished from malignant growths.

Causes.—The causes of tumors are almost wholly unknown. There is no other branch of medicine which is receiving more scientific study the world over than cancer, and some definite and helpful knowledge may soon be expected. A cancer can be communicated by introduction of cancerous material into healthy tissues. This and other reasons have led many to believe that the disease was caused by a special germ; a chemical cause is thought to be the origin of cancer by other authorities. Neither of these theories has been substantiated and we are still completely at sea in the matter. Cancer appears to be excited sometimes by local

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irritation, as in the lip by the constant irritation of the hard, hot stem of a clay pipe; cancer of the tongue by the irritation of a rough, sharp tooth. Blows and injuries are also occasional agencies in the development of cancer. Malignant growths not rarely arise from moles and warts.

Treatment.—Early removal by the knife is the only form of treatment which is to be considered in most cases. Delay and neglect are suicidal in malignant disease. Cure is successful in just so far as the operation is done early. If dread of surgical operation were not so prevalent, the results of removal of cancer would be immeasurably better. The common, bad results of operation—that is, return of the disease—are chiefly due to the late stage in which surgeons are compelled to operate through the reluctance of the patient and, strangely enough, often of his family medical man. Cancer should be removed in so early a stage that its true nature can often not be recognized, except by microscopical examination after its removal. If Maurice Richardson's rule were followed, many cancers would never occur, or would be removed before they had developed sufficiently to show their nature.

All treatment by chemical pastes and special remedies is simply courting fatal results. Most special cures advertised to be performed in sanatoriums are money-getting humbugs. Even the X-ray has proved useless except in the case of most superficial growths limited

Rupture

to the skin or when directed against the scar left by removal of a cancer; and while the growth may disappear during treatment, in a large proportion of cases there is a recurrence. But when tumors are so far advanced that removal by the knife is inoperable, then other means will often secure great relief from suffering and will prolong life for a very considerable period in many cases.

RUPTURE.—Hernia or rupture consists in a protrusion of a portion of the contents of the abdomen (a part of the bowel or its covering, or both) through the belly wall. The common seats of rupture are at the navel and in the groin. Rupture at the navel is called umbilical hernia; that in the groin either inguinal or femoral, according to slight differences in site. Umbilical hernia is common in babies and occurs as a whole in only five per cent of all ruptures, whereas rupture in the groin is seen to the extent of ninety-four per cent of all ruptures. There is still another variety of hernia happening in the scars of wounds of the belly after injuries or surgical operations, and this may arise at almost any point.

Causes.—Rupture is sometimes present at birth. In other cases it is acquired as a result of various causes, of which natural weakness of the part is the chief. Twenty-five per cent of persons with rupture give a history of the same trouble in their parents. Rupture is three times more frequent in men than in women, and is favored by severe muscular work, fat-

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ness, chronic coughing, constipation, diarrhea, sudden strain, or blows on the abdomen.

Symptoms.—Rupture first appears as a fullness or swelling, more noticeable on standing, lifting, coughing, or straining. It may disappear entirely on lying down or on pressure with the fingers. In the beginning there may be discomfort after standing or walking for any length of time, and later there is often a dragging pain or uneasiness complained of, or a sensation of weakness or griping at the seat of the rupture. In case the rupture cannot be returned, it is called irreducible and is a more serious form. The great danger of hernias is the likelihood of their being strangulated, as the term is; that is, so nipped in the divided abdominal wall that the blood current is shut off and often the bowels are completely obstructed. If this condition is not speedily relieved death will ensue in from two to eight days. Such a result is occasioned, in persons having rupture, by heavy lifting, severe coughing or straining, or by a blow or fall. The symptoms of strangulated hernia are sudden and complete constipation, persistent vomiting, and severe pain at the seat of the rupture or often about the navel. The vomiting consists first of the contents of the stomach, then of yellowish-stained fluid, and finally of dark material having the odor of excrement. Great weakness, distention of the belly, retching, hiccough, thirst, profound exhaustion, and death follow if the condition is not remedied. In

Rupture

some cases, where the obstruction is not complete, the symptoms are comparatively milder, as occasional vomiting and slight pain and partial constipation.

If the patient cannot return the protrusion speedily, a surgeon should be secured at all costs—the patient meanwhile lying in bed with an ice bag or cold cloths over the rupture. The surgeon will reduce the protrusion under ether, or operate. Strangulation of any rupture may occur, but of course it is less likely to happen in those who wear a well-fitting truss; still it is always a dangerous possibility, and this fact and the liability of the rupture's increasing in size make a surgical operation for complete cure advisable in proper subjects.

Treatment.—Two means of treatment are open to the ruptured: the use of the truss and surgical operation. By the wearing of a truss, fifty-eight per cent of ruptures recover completely in children under one year. In children from one to five years, with rupture, ten per cent get well with the truss. Statistics show that in rupture which has been acquired after birth but five per cent recover with a truss after the age of fifteen, and but one per cent after thirty. The truss must be worn two years after cure of the rupture in children, and in adults practically during the rest of their lives. A truss consists of a steel spring which encircles the body, holding in place a pad which fits over the seat of hernia. The Knight truss is one of the best. The truss is most satisfactory in ruptures

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which can be readily returned. In very small or large hernias, and in those which are not reducible, the action of the truss is not so effective. In irreducible ruptures there is likely to be constipation and colic produced, and strangulation is more liable to occur. A truss having a hollow pad may prove of service in small irreducible ruptures, but no truss is of much value in large hernias of this kind. Every person with a reducible rupture should wear a proper truss until the rupture is cured by some means. Such a truss should keep in the hernia without causing pain or discomfort. It should be taken off at night, and replaced in the morning while the patient is lying down. In cases where the protrusion appears during the night a truss must be worn day and night, but often a lighter form will serve for use in bed. To test the efficiency of a truss let the patient stoop forward with his knees apart, and hands on the knees, and cough. If the truss keeps the hernia in, it is suitable; if not, it is probably unsuitable. Operation for complete cure of the hernia is successful in 95 cases out of 100, in suitable subjects, in the ruptures in the groin. The death rate is but about 1 in 500 to 1,000 operations when done by surgeons skilled in this special work. Patients with very large and irreducible hernias, and those who are very fat and in advanced life, are unfavorable subjects for operation. In young men operation—if it can be done by a skillful surgeon and in a hospital with all facilities—is usually to be recommended

Varicose Veins

in every case of rupture. Umbilical hernias and ventral hernias, following surgical operations, may be held in place by a wide, strong belt about the body, which holds a circular flat or hollow plate over the rupture. These have been the most difficult of cure by operation; but recent improvements have yielded very good results—thirty-five cures out of thirty-six operations for umbilical rupture, and one death, by Mayo, of Rochester, Minn.—and they are usually the very worst patients, of middle age, or older, and very stout.

Umbilical rupture in babies is very common after the cord has dropped off. There is a protrusion at the navel which increases in size on coughing, straining, or crying. If the rupture is pushed in and the flesh is brought together from either side in two folds over the navel, so as to bury the navel out of sight, and held in this position by a strip of surgeon's plaster, reaching across the front of the belly and about two and one-half inches wide, complete recovery will usually take place within a few months. It is well to cover the plaster with a snug flannel band about the body. The plaster should be replaced as need be, and should be applied in all cases by a physician if one can be secured.

VARICOSE VEINS.—Varicose veins are enlarged veins which are more commonly present on the legs, but are also seen in other parts of the body. They stand out from the skin as bluish, knotty, and winding cords which flatten out when pressure is made

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upon them, and shrink in size in most cases upon lying down. Sometimes bluish, small, soft, rounded lumps, or a fine, branching network of veins may be seen. Oftentimes varicose veins may exist for years—if not extensive—without either increasing in size or causing any trouble whatsoever. At other times they occasion a feeling of weight and dull pain in the legs, especially on long standing. When they are of long duration the legs may become swollen and hard, and eczema, with itching, is then not uncommon. This leads to scratching and sores, and these may enlarge and become what are called varicose ulcers, which are slow and difficult of healing. Occasionally an old varicose vein may break open and give rise to profuse bleeding.

Causes.—Varicose veins are more frequent in women, especially in those who stand much, as do cooks. Any obstruction to the return flow of the blood from the veins toward the heart will produce them, as a tight garter about the leg; or the pressure of the large womb in pregnancy upon the veins, or of tumors in the same region. Heart and lung diseases also predispose to the formation of varicose veins.

Treatment.—Varicose veins are exceedingly common, and if they are not extensive and produce no discomfort they may be ignored. Otherwise, it is well to have an elastic stocking made to come to, or above, the knee. The stocking should be put on and removed while lying down. Cold bathing, outdoor exercise, and

Varicocele

everything which will improve the general health and tone are desirable, also the avoidance of constipation. In the most aggravated cases surgical operation will cure varicose veins. Bleeding from a broken vein is stopped by pressure of a bandage and lying on the back with the foot raised on a pillow.

VARICOCELE.—This consists of an enlargement of the veins in the scrotum above the testicle of the male, on the left side in most cases. The large veins feel more like a bunch of earthworms than anything else. If they cause no discomfort they may be entirely neglected and are not of the slightest consequence. Even when they produce trouble it is chiefly imaginary, in most instances, since they are a common source of worry in young men in case of any irregularities in the sexual functions. Advantage is taken of this fact by quacks, who find it for their profit to advertise all sorts of horrible and impossible results of the condition. The testicle on the diseased side may become smaller than its fellow, but in few cases does any serious consequence result from varicocele. Pain in the hollow of the back may be the only symptom of varicocele in cases where there are any symptoms. A dragging pain in the groin, a pain in the testicles and about the rectum and in the bladder may cause complaint.

Causes.—Varicocele occurs usually in young, unmarried men and often disappears of itself in later life. Undue sexual excitement may produce the condition.

Treatment.—When any treatment is necessary, the application of a snugly fitting suspensory bandage—which can be procured at any good drug shop—and bathing the testicles night and morning in cold water, with the avoidance of constipation and of the cause noted, will be generally sufficient to relieve any discomfort arising from varicocele. The enlargement of the veins will not, of course, be altered by this treatment, and absolute cure can only be effected by a surgical removal of the veins, which is not a serious undertaking, but is rarely necessary.

PILES—HEMORRHOIDS.—Piles consist of enlarged, and often inflamed, veins in the rectum, or lower part of the bowel.

External Piles.—These are bluish swellings or little lumps which project from the bowel, interfering with walking or the toilet of the parts, and are sometimes exquisitely tender and painful when inflamed. In the course of time these become mere projections or fringes of flesh and cause no trouble unless through uncleanness or other reasons they are irritated. The treatment of external piles may be summed up in great cleanliness—washing the parts after each movement of the bowels; rest in bed, if the soreness is great; the application of cold water or powdered ice in a rubber bag, or of hot poultices, and of various drugs. Among these are hamamelis extract, or witch-hazel, with which the parts may be frequently bathed; an ointment of nut-gall and opium; or extract of belladonna and glycerin,

Piles

equal parts. Sitting in cold water, night and morning, in a tub also will prove serviceable. The more rapid and effectual method of cure consists in opening of the recent pile by the surgeon, or clipping off the fleshy projections. The bowels should always be kept regular in any form of piles by small doses of Glauber's or Epsom salts taken in a glass of hot water on rising, or some mineral water. In case these do not agree, extract of cascara or compound licorice powder may be taken at night. Equal parts of sulphur and cream of tartar is an old-fashioned domestic cathartic of which a teaspoonful may be taken each morning to advantage in piles.

Internal Piles.—In the beginning patients with internal piles feel as if the bowels were not wholly emptied after a passage, and sometimes there is difficulty in urinating and also pains in the hollow of the back and in the thighs. There is often pain on movement of the bowels, and blood follows the passage. Later, blood may be lost at other times, and the loss may be so great as to cause pronounced paleness and weakness. Itching is a frequent occurrence. Mucus and pus (matter such as comes from an abscess) may also be discharged. Loss of sexual desire and power is not uncommonly present. There may be no external protrusions; but bleeding, itching, and pain during movement of the bowels are the chief symptoms. If the pain is very severe during and also after a passage, it is probable that there is also present a fissure

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or crack in the flesh, or ulcer at the exit of the bowel which needs surgical attention. It not infrequently happens that the piles come out during the bowel movement, when they should be thoroughly washed, greased, and pushed back. Sometimes this is impossible, although after lying down for a while and applying ice or cold water the mass may shrink so as to admit of its return. When a large mass is thus protruded and cannot be returned, and becomes nipped by the anus muscles, it undergoes inflammation and is very painful, but a cure often results from its destruction. Such a mode of cure is not a safe or desirable one, however.

Treatment.—The cold sitz baths in the morning or injections of a half pint of ice water after a passage are useful. Ointments may be introduced into the bowel upon the finger, or, better, with hard rubber plugs sold for the purpose; or suppositories may be employed. An ointment, containing sixty grains of iron subsulphate to the ounce of lard (or, if there is much itching, an ointment consisting of orthoform, thirty grains, with one-half ounce of lard), will prove of value. Also the injection of one-half pint cold water, containing a teaspoonful of extract of hamamelis, after a passage, affords relief. Two or three grains of the subsulphate of iron may be employed in suppositories, and one of these may be introduced three times daily. The compound gall ointment or the glycerite of tannin will be found to act successfully

Piles

in some cases. When one remedy does not serve, try another. The only positive cure for piles consists in surgical operation for their removal. Self-treatment is not recommended, as the physician can do better, and an examination is always advisable to rule out other conditions which may be mistaken by the layman for piles.

Causes.—Piles are seen chiefly in adults, in those in advanced life, and in those who exercise little but eat much. Constipation favors their occurrence, and the condition is commonly present in pregnant women. Fatigue, exposure, horseback exercise, or an alcoholic debauch will cause their appearance. Certain diseases also occasion the formation of piles.

CHAPTER II

Skin Diseases and Related Disorders

Household Remedies for Itching—Chafing and Chapping—Hives, Cold Sores and Pimples—Ringworms, Warts and Corns—Eczema and other Inflammatory Disorders.

No attempt will be made to give an extended account of skin diseases, but a few of the commoner disorders which can be readily recognized by the layman will be noticed. Although these cutaneous troubles are often of so trivial a nature that a physician's assistance is unsought, yet the annoyance is often sufficient to make it worth while for the patient to inform himself about the ailment. Then the affections are so frequent that they may occur where it is impossible to procure medical aid. Whenever an eruption of the skin is accompanied by fever, sore throat, headache, pains in back and limbs, vomiting, or general illness, one of the serious, contagious, eruptive diseases should be suspected, particularly in children, and the patient must be removed from contact with others, kept in isolation, and a physician immediately summoned.

ITCHING (*Pruritus*).—Itching is not a distinct disease by itself, but a symptom or sign of other skin

Itching

or general disorders. Occasionally it must be treated as if it were a separate disease, as when it occurs about the entrance to the bowel (*anus*), or to the external female sexual parts (*vulva*), or attacks the skin generally, and is not accompanied by any skin eruption except that caused by scratching, and the cause be unascertainable. Itching, without apparent cause, may be due to parasites, as lice and fleas, and this must always be kept in mind; although debilitated states of the body and certain diseases, as gout and diabetes, are sometimes the source. Commonly, itching is caused by one of the many recognized skin diseases, and is accompanied by an eruption characteristic of the particular disorder existing, and special treatment by an expert, directed to remedy this condition, is the only reasonable way to relieve the itching and cure the trouble.

It may not, however, be improper to suggest means to relieve such a source of suffering as is itching, although unscientific, with the clear understanding that a cure cannot always be expected, but relief may be obtained until proper medical advice can be secured. The treatment to be given will be appropriate for itching due to any cause, with or without existing eruption on the skin, unless otherwise specified. If one remedy is unsuccessful, try others.

For itching afflicting a considerable portion of the skin, baths are peculiarly effective. Cold shower baths twice daily, or swimming in cold water at the proper

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time of year, may be tried, but tepid or lukewarm baths are generally more useful. The addition of saleratus or baking soda, one to two pounds to the bath, is valuable, or bran water obtained by boiling bran tied in a bag in water, and adding the resulting solution to the bath. Even more efficient is a bath made by dissolving half a cupful of boiled starch and one tablespoonful of washing or baking soda in four gallons of warm water. The tepid baths should be as prolonged as possible, without chilling the patient. The bran water, or starch water, may be put in a basin and sopped on the patient with a soft linen or cotton cloth and allowed to evaporate from the skin, without rubbing, but while the skin is still moist a powder composed of boric acid, one part, and pulverized starch, four parts, should be dusted on the itching area.

Household remedies of value include saleratus or baking soda (one teaspoonful to the pint of cold water), or equal parts of alcohol, or vinegar and water, which are used to bathe the itching parts and then permitted to dry on them. Cold solution of carbolic acid (one teaspoonful to the pint of hot water) is, perhaps, the most efficacious single remedy. But if it causes burning it must be washed off at once. Dressings wet with it must never be allowed to become dry, as then the acid becomes concentrated and gangrene may result. Calamine lotion (p. 145) is also a serviceable preparation when there is redness and swelling of the skin.

Chafing and Chapping

When the itching is confined to small areas, or due to a pimply or scaly eruption on the skin, the following ointments may be tried: a mixture of tar ointment and zinc ointment (two drams each) with four drams of cold cream, or flowers of sulphur, one part, and lard, twelve parts.

CHAFING AND CHAPPING.—Chafing occurs when two opposing skin surfaces rub together and are irritated by sweat, as in the armpits, under the breasts and beneath overlapping parts of the belly of fat people, and between the thighs and buttocks. The same result is caused by the irritation induced by discharges constantly running over the skin, as that seen in infants, due to the presence of urine and bowel discharges, and that irritation which arises from saliva when the lips are frequently licked. The latter condition of the lips is commonly called chapping, but it is proper to consider chafing and chapping together as the morbid state of the skin, and the treatment is the same for both.

Chafing occurs more often in hot weather and after violent exercise, as rowing, riding, or running, and is aggravated by the friction of clothing or of tight boots. It may, on the other hand, appear in persons who sit a great deal, owing to constant pressure and friction in one place. The parts are hot, red, and tender, and emit a disagreeable odor when secretions are retained. The skin becomes sodden by retained sweat, and may crack and bleed. The same redness and tenderness are

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seen in chapping of the face and lips, and cracking of the lips is frequent.

In chafing the first requisite is to remove the cause, and then thoroughly wash the part with soap and water. Then a saturated solution of boric acid in water should be applied with a soft cloth, and the parts dusted with a mixture of boric acid and powdered starch, equal parts, three times daily. If the lips are badly cracked, touching them, once daily, with a stick of silver nitrate (dipped in water) is of service.

HIVES; NETTLERASH (*Urticaria*).—Hives is characterized by the sudden appearance of hard round or oval lumps in the skin, from the size of a pea to that of a silver dollar, of a pinkish-white color, or white in the center and often surrounded by a red blush. The rash is accompanied by much itching, burning, or tingling, especially at night when the clothes are removed. The peculiarity of this eruption is the suddenness with which the rash appears and disappears; the itching, the whitish or red lumps, the fact that the eruption affects any part of the body and does not run together, are also characteristic. Scratching of the skin often brings out the lumps in a few minutes. The swellings may last a few minutes or hours, and suddenly disappear to reappear in some other place. The whole trouble usually continues only a few days, although at times it becomes a chronic affection.

Hives

Scratching alters the character of the eruption, and causes red, raw marks and crusts, but the ordinary swellings can be seen usually in some part of the body. Rarely, the eruption comes in the throat and leads to sudden and sometimes dangerous swelling, so that suffocation has ensued. With hives there are no fever, sore throat, backache, headache, which are common to the contagious eruptive disorders, as measles, scarlet fever, etc.

Indigestion is the most frequent cause. Certain articles of diet are almost sure to bring on an attack of hives in susceptible persons; these include shellfish, clams, lobsters, crabs, rarely oysters; also oatmeal, buckwheat cakes, acid fruits, particularly strawberries, but sometimes raspberries and peaches. Nettlerash is common in children, and may follow any local irritation of the skin caused by rough clothes, bites of mosquitoes and fleas, and the stings of jellyfish, Portuguese man-of-war, and nettles.

Treatment.—Remove any source of irritation in the digestive canal, or externally, and employ a simple diet for a few days, as bread and milk.

A dose of castor oil, one teaspoonful for children; one tablespoonful for adults, or some other cathartic is advisable. Locally we use, as domestic remedies, a saturated solution of baking soda (or saleratus) in water, or equal parts of alcohol or vinegar and water to relieve the itching. The bath containing soda and starch (p. 141) is the most useful treatment when the

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nettlerash is general. Calamine lotion is one of the best applications which can be employed for this disorder. It should be sopped on frequently with a soft cloth and allowed to dry on the skin.

CALAMINE LOTION

Zinc oxide.....	$\frac{1}{2}$ ounce
Powdered calamine.....	$\frac{1}{4}$ "
Limewater	6 ounces

Mix and shake before applying to the skin.

If choking is threatened, give an emetic of mustard, one teaspoonful, and warm water, half a pint.

PIMPLES; BLACKHEADS (*Acne*). — This eruption is situated chiefly on the face, but often on the back, shoulders, and chest as well. It is a disorder which is seen mostly in young men and women at about the age of puberty. It consists of conical elevations of the skin, from a pin head to a pea in size, often reddened and tender on pressure, and having a tendency to form matter or pus, as shown by a yellow spot in the center of the pimple. After three to ten days the matter is discharged, but red elevations remain, which later become brown and disappear without scarring, except in rare cases.

"Blackheads" appear as slightly elevated black points, sometimes having a yellowish tint from which a little, thin, wormlike mass may be pressed. Pimples and blackheads are both due to inflammation about the glands of the skin which secrete oily material; the

Pimples

mouths of the glands become plugged with dust, thus retaining the oily secretion and causing blackheads. Then if these glands are invaded by germs producing pus, we have a pimple, which usually results in the formation of matter as described above. Constipation and indigestion favor the occurrence of pimples and blackheads; also a poor state of the blood, or anæmia.

Treatment. — Tea, coffee, tobacco, and alcohol should be avoided, together with veal, pork, fats, and cheese. The bowels must be moved daily by some proper cathartic, as cascara tablets containing two grains each of the extract. The dose is one to two tablets at night. The blackheads should be squeezed out with a watch key, or with an instrument made for the purpose, not finger nails, and pimples containing matter must be emptied after being pricked with a needle (which has been passed through a flame to kill germs on it). If there is redness of the skin and irritation associated with pimples, it is sufficient to bathe the skin with very hot water and green soap three times daily, and apply calamine lotion (see p. 145) at night. In other cases, when the skin is not sensitive, and zinc or mercury has not been used, the employment of sulphur soap and hot water at bedtime, allowing the suds to dry and remain on the face during the night, is to be recommended. An ointment consisting of half a dram of precipitated sulphur with half an ounce each of powdered starch and vaseline applied each night, and

hot water used on the face three times daily are also efficacious. Sulphur lotion is better than sulphur ointment.

COLD SORE; FEVER BLISTER.—Cold sores occur usually about the lips or at the angles of the mouth, although they may appear anywhere on the face. Cold sore has a round, oval, or irregular outline, from the size of a pea to that of a quarter of a dollar, and is seen as a slightly raised patch on the skin on which is a group of very minute blisters, three to twelve in number. Cold sore may be single or multiple, and near together or widely separated on the face. Having first the appearance of a red patch, it later becomes covered with a brown crust from the drying of the contents of the tiny blisters. Cold sore often gives rise to burning, itching, or tingling, the disfigurement usually causing more annoyance, however, than the pain. The duration of the trouble is from four to twelve days.

Cold sores are commonly induced by indigestion and fevers, and also are occasioned by local irritation of any sort, as from nasal discharge accompanying cold in the head (from which the name is derived), by the irritation produced by a pipestem or cigar, and by rubbing the skin.

Treatment.—Picking and scratching are very harmful, and cigar or pipe smoking must be stopped. Painting the sore with collodion, by means of a camel's-hair brush, is poor treatment in the early stages.

Prickly Heat

Better use spirits of camphor, and afterwards, if there is much itching or burning, sopping the eruption with calamine lotion (p. 145) will relieve the discomfort.

PRICKLY HEAT (*Miliaria*).—This is a common eruption of adults in hot weather, and very frequently attacks children. It consists of fine, pointed, red rash, or minute blisters, and occurs on parts of the body covered by clothing, more often on the chest. The eruption is caused by much sweating, leading to congestion and swelling of the sweat glands. Burning, stinging, and itching accompany the disorder. The condition must be distinguished from the contagious skin eruptions. In the latter there are fever, sore throat, backache, headache, and general sickness, while in prickly heat there is no general disturbance of the system, or fever, unless the eruption comes out in the course of fevers, when it is of no significance except as one of the symptoms of fever.

Treatment.—The treatment of prickly heat, occurring in hot weather, consists in avoiding heat as much as possible and sponging the surface with cold water, and then dusting it with some simple powder, as starch or flour, or better, borated talcum. To relieve the itching, sponging with limewater or a saturated solution of baking soda (as much as will dissolve) in water, or bran baths, made by tying one pound of bran in a towel which is allowed to soak in the bath, are all good remedies.

RINGWORM OF THE BODY; RINGWORM OF THE SCALP.—

This skin disease is caused by a vegetable fungus and not by a worm as the name suggests. The disease on the body and scalp is caused by the same parasite, but ringworm of the body may attack adults as well as children, and is readily cured; ringworm of the scalp is a disease confined to children, and is difficult of cure. Ringworm is contagious and may be acquired from children with the disease, and therefore patients suffering from it should not be sent to school, and should wear a skull cap and have brush, comb, towels, and wash cloths reserved for their personal use alone. Children frequently contract the disease from fondling and handling cats and dogs.

Symptoms.—On the body, ringworm attacks the face, neck, and hands. It appears first as small, red, scaly spots which may spread into a circular patch as large as a dollar with a red ring of small, scaly pimples on the outside, while the center exhibits healthy skin, or sometimes is red and thickened. There may be several patches of ringworm near each other and they may run together, or there may be only one patch of the disease. Ringworm of the scalp occurs as a circular, scaly patch of a dusty-gray or pale-red color on which there are stubs of broken hairs pointing in different directions, and readily pulled out. The disease in this locality is very resistant to treatment. There are no crusts or itching as in eczema.

Freckles

Treatment.—The application of pure tincture of iodine or carbolic acid to the spots with a camel's-hair brush, on one or two occasions, will usually cure ringworm on the skin. On the scalp the hairs should be pulled out of the patch of ringworm, and each day it should be washed with soap and water and a solution of boric acid (as much acid as the water can dissolve), destroying the cloth used for washing. The following ointment is then applied: sulphur, one part; tar, two parts; and lard, eight parts. It is desirable to secure the services of a physician in this disease, in which various remedies may have to be tried to secure recovery. If untreated, ringworm is likely to last indefinitely.

FRECKLES, TAN, AND OTHER DISCOLORATIONS OF THE SKIN.—Freckles appear as small, yellowish-brown spots on the face, arms, and hands, following exposure to the sun in summer, and generally fading away almost completely in winter. However, sometimes they do not disappear in winter, and do occur on parts of the body covered by clothing. Freckles are commonly seen in red-haired persons, rarely in brunettes, and never on the newborn. Their removal is accomplished by the employment of agents which cause a flaking off of the superficial layer of discolored skin, but after a few weeks the discolorations are apt to return. Large, brown spots of discoloration appearing on the face are observed more often in women, and are due to disorder of digestive organs

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of the sexual organs or to pregnancy; they also occur in persons afflicted with exhausting diseases. Tan, freckles, and discolorations of the skin generally are benefited by the same remedies.

Treatment.—Prevention of tan and freckles is secured through nonexposure of the unprotected skin to the sun, though it is doubtful whether the end gained is worth the sacrifice, if carried so far as to the avoidance of the open air and sunlight whenever possible.

Boric acid (sixteen grains to the ounce of water) is an absolutely harmless and serviceable agent for the removal of skin pigmentations. The skin may be freely bathed with it night and morning. Corrosive sublimate is the most effective remedy, but is exceedingly poisonous if swallowed accidentally, and must be kept out of children's way, and should not be applied over any large or raw surface of skin or on any mucous membrane. Its application is inadvisable as soon as any irritation of the skin appears from its use. The following preparation containing it is to be painted on the skin with a camel's-hair brush, night and morning:

POISONOUS SUBLIMATE SOLUTION

Corrosive sublimate.....	7 grains
Alcohol.....	1½ ounces
Glycerin.....	1½ "
Oil of lavender.....	10 drops

Mix.

Ivy Poison

The following lotion is also efficacious:

Zinc oxide	30 grains
Powdered starch.....	30 "
Kaolin.....	60 "
Glycerin.....	2 drams
Rose water	2 ounces

Mix.

DIRECTIONS.—Shake and paint on spots, and allow the preparation to dry; wash it off before each fresh application.

It is best to use only cold water, rarely soap, on the healthy skin of the face. Warm water favors relaxation of the skin and formation of wrinkles.

IVY POISON.—The poison ivy (*Rhus toxicodendron*), poison sumach (*Rhus venenata*), and poison oak (*Rhus diversiloba* of the Pacific Coast, U. S. A.) cause inflammation of the skin in certain persons who touch either one of these plants, or in some cases even if approaching within a short distance of them. The plants contain a poisonous oil, and the pollen blown from them by the wind may thus convey enough of this oil to poison susceptible individuals who are even at a considerable distance. Trouble begins within four to five hours, or in as many days after exposure to the plants.

The skin of the hands becomes red, swollen, painful, and itching. Soon little blisters form, and scratching breaks them open so that the parts are moist and then become covered with crusts. The poison is conveyed by the hands to the face and, in men, to the

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sexual organs, so that these parts soon partake of the same trouble. The face and head may become so swollen that the patient is almost unrecognizable. There is a common belief that ivy poison recurs at about the same time each year, but this is not so except in case of new exposures. Different eruptions on the same parts often follow ivy poisoning, however.

Treatment.—A thorough washing with soap, especially green soap, will remove much of the poison and after effects. Saleratus or baking soda (a heaping tablespoonful of either to the pint of cold water) may be used to relieve the itching, but ordinary "lead and opium wash" is the best household remedy. Forty minims of laudanum¹ and four grains of sugar of lead dissolved in a pint of water form the wash. The affected parts should be kept continually wet with it. Aristol in powder, thoroughly rubbed in, is almost a specific.

WARTS.—Warts are flattened or rounded outgrowths from the outer and middle layers of the skin, varying in size from a pin head to half an inch in diameter. There are several varieties.

Seed Warts.—These have numerous, little, fleshy projections over their surface, which are enlarged normal structures (*papillæ*) of the middle layer of the skin, together with the thickened, outer, horny layer.

Threadlike Warts.—These are seen along the edge of the nails, on the face, neck, eyelids, and ears.

¹ Caution. Poisonous.

Corns

They are formed by the great prolongation and growth of the projections, or *papillæ* of the middle layer of the skin just described.

Flat Warts, raised but slightly above the surface are more common in old people.

Moist Warts occur where they are softened **by** secretions of the body, as about the sexual organs (in connection with diseases of the same), and about the anus (or opening of the bowel). They are of a white, pink, or red color, and consist of numerous, little, fleshy projections, usually covered with a foul-smelling secretion.

Warts most commonly appear on the hands of children, but may appear on any part of the body and at all ages. They may disappear quickly or remain indefinitely. They are not communicable from one person to another.

Treatment.—Warts may be removed by painting them frequently with the fresh juice of the milkweed, or with acetic acid or tincture of iodine. These remedies are all harmless, but somewhat slow and not always effective. Application, morning and evening, of a saturated solution of “washing soda” (impure bicarbonate of potash) will often remove a wart.

CORNS.—Corns are local, cone-shaped thickenings of the outer layer of the skin of the feet, due to pressure and friction of the shoes, or opposed surfaces of skin between the toes. They are not in themselves sensitive, but pain follows pressure upon them, as they

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act as foreign bodies in bearing down upon the sensitive lower layers of the skin. Continued irritation often leads to inflammation of the skin around and beneath the corn with the formation of pus. Ordinarily, corns are tough, yellowish, horny masses, but, when moistened by sweat between the toes, they are white, and are called "soft corns."

Treatment.—Comfortable shoes are the first requisite; well-fitting and neither tight nor loose. Pressure may be taken off the corns by surrounding them with felt rings or corn plaster. To remove the corn the foot should be soaked for a long time in warm water, in which is dissolved washing soda, and then the surface of the corn is gently scraped off with a clean, sharp knife. Another useful method consists in painting the corn, night and morning for five days, with the following formula, when both the coating and corn will come off on soaking the same for some time in warm water:

Salicylic acid.....	30 grains
Tincture of iodine.....	10 drops
Extract of Cannabis Indica.....	10 grains
Collodion.....	4 drams

Mix.

When the tissues about the corn become inflamed the patient must rest with the foot elevated and wrapped in a thick layer of absorbent cotton saturated with a hot solution of corrosive sublimate (one tablet

Callus and Cracks of the Skin

to the pint of water) and covered with oil silk or rubber cloth. Pus must be let out with a knife which has been laid in boiling water.

If corns are removed by the knife the foot should be previously made absolutely clean, the knife boiled, and the paring not carried to the extent of drawing blood. The too-close removal of a corn may lead to infection of the wounded tissues with germs, and in old people, and those with feeble circulation, gangrene or erysipelas may result. Soft corns are treated by removal of the surface layer, by soaking in washing soda and hot water and scraping as above stated, and then the corn should be dusted with a mixture of boric acid and zinc oxide, equal parts, and the toes kept apart by pads of absorbent cotton.

CALLUS AND CRACKS OF THE SKIN.—

Callus consists of round or irregular, flattened, yellowish thickenings of the upper or horny layer of the skin. The skin becomes hypertrophied and resembles a thick, horny layer, caused by intermittent pressure of tools, shoes, etc. The whole palm of the hand or soles of the feet may be the seats of a continuous callus. Callus is not harmful, except in leading to cracks of the skin near the bend of joints, and, rarely, in causing irritation, heat, pain, and even the formation of pus in the skin beneath. Callus usually disappears when the exciting cause or pressure is removed.

Treatment.—The hands and feet should be soaked continuously in hot baths containing washing soda,

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and then should be covered with diachylon (or other) ointment. This may be done each night; or collodion (one ounce containing thirty grains of salicylic acid) may be painted, night and morning for several days, on the callus, and then, after soaking for some time in hot water, the surface should be scraped off with a dull knife and the process repeated as often as necessary to effect a cure. Fissure or cracks of the skin caused by callus are treated in the same manner: by prolonged soaking in hot water, paring away the edges, and applying diachylon ointment or cold cream to the part. Inflammation about callus must be cared for as recommended above for inflamed corns.

BOILS.—A boil is a circumscribed inflammatory process, caused by the entrance of pus-producing germs into the skin either through the pores (the mouths of the sweat glands) or along the shafts of the hair, and in this way invading the glands which secrete a greasy material (sebaceous glands). In either case the pus germs set up an inflammation of the sweat or sebaceous glands, and the surrounding structures of the skin, and a small, red, itching pimple results. Rarely, after a few days, the redness and swelling disappear, and the pus, if any, dries and the whole process subsides. This is called a "blind boil." But usually the boil increases in size for several days, until it may be as large as a pigeon's egg. It assumes a bright-red sharply defined, rounded shape, with a conical point, and is at first hard and then softens as pus or "matter" forms. There is

Boils

severe pain of a throbbing, boring character, which is worse at night, and destroys the patient's sleep and appetite. There may be some fever. The glands in the neighborhood may be enlarged and tender, owing to some of the pus germs' escaping from the boil and lodging in the glands.

If the boil is not lanced, it reaches its full development in seven to ten days with the formation of a central "core" of dead tissue and some pus, which gives to the center of the boil a whitish or yellowish-brown appearance. The boil then breaks down spontaneously in one or more places (usually only one) and discharges some pus, and, with a little pressure, also the white, central core of dead tissue. The remaining wound closes in and heals in a week or two. Boils occur singly or in numbers, and sometimes in successive crops. When this happens it is because the pus germs from the previous boils have invaded fresh areas of skin.

Causes.—Boils are thus contagious, the pus germs being communicated to new points on the patient's skin, or to that of another person. Local irritation of the skin, from whatever cause, enables the germs to grow more readily. The existence of skin diseases, as eczema ("salt rheum"), prickly heat, and other sources of itching and scratching, is conducive to boils, as the pus germs contained in ordinary dirt are rubbed into the irritated skin. Whenever the skin is chafed by rough clothing, as about the wrists and neck by

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frayed collars and sweaters, etc., boils are likely to occur. Also when the face and neck are handled by barbers with dirty hands or instruments, a fruitful field is provided for their invasion. While boils are always the result of pus germs gaining entrance to the skin glands, and, therefore, strictly due to local causes, yet they are more prone to occur when the body is weakened and unable to cope with germs which might do no harm under other circumstances.

The conditions favoring the occurrence of boils are: an impoverished state of the blood, errors of diet and indigestion, overwork, dissipation, and certain diseases, as typhoid fever, diabetes, and smallpox. Boils are thought to occur more frequently in persons with rough skin and with a vigorous growth of dark hair. They may be situated on any part of the body, but certain localities are more commonly attacked, as the scalp, the eyelids, cheeks, neck, armpits, back, and buttocks. Boys and young men are generally the sufferers.

Treatment.—The importance of cleanliness cannot be overestimated in the care of boils if we keep their cause in mind. Dirty underclothes or fingers used in squeezing or otherwise handling the boil, may carry the trouble to fresh parts. Any sort of local irritation should be removed; also all articles of clothing which have come in contact with the boils should not be worn until they have been washed in boiling water. There is no single remedy of much value for the cure of boils, although pills of calcium sulphide (each one-

Boils

tenth grain) are commonly prescribed by physicians, every three hours.

The most rational measure consists in removing the general causes, as noted above, if this is possible. When the patient is thin and poorly nourished, give food and cod-liver oil; and if the lips and skin are pale, iron arsenate pills (one-sixteenth grain each) are to be taken three times daily for several weeks. A boil may sometimes be arrested by painting it with tincture of iodine until the boil is almost black, or with a very heavy coating of collodion. If a boil continues to develop, notwithstanding this treatment, one should either use an ointment of vaseline containing ten per cent of boric acid spread on soft cotton over the boil, or, if the latter is very painful, resort to the frequent application of hot flaxseed poultices.

When the boil has burst, and pus is flowing out on the surrounding skin, it should be kept very clean by frequent washing with hot water and soap and the application of a solution of corrosive sublimate (one part to 1,000) made by dissolving one of the tablets, sold everywhere for surgical purposes, in a pint of warm water. This will prevent the lodgment of the pus germs in the skin and the formation of more boils. Poultices mixed with bichloride (corrosive sublimate) solution are less likely to encourage inoculation of neighboring areas.

The poultices should be stopped as soon as the pain ceases, and the boil dressed as recommended above,

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dusted with pure boric acid and covered with clean absorbent cotton and bandage. After pus has begun to form in a boil recovery will be materially hastened by the use of a knife, although this is not essential. The boil should be thoroughly cleaned, and a sharp knife, which has been boiled in water for five minutes, is inserted, point first, into the center of the boil, far enough to liberate the pus and dead tissue. By this means healing is much more rapid than by nature's unassisted methods. Pure carbolic acid, applied on the tip of a toothpick, thrust into the head of a boil, is generally curative. When many boils occur, consult a physician.

CARBUNCLE.—A carbuncle is similar to a boil in its causation and structure, but is usually a much more serious matter having a tendency to spread laterally and involve the deeper layers of the skin. It is commonly a disease of old persons, those prematurely old or debilitated, and occurs most frequently on the neck, back, or buttocks. It is particularly dangerous when attacking the back of the neck, upper lip, or abdomen.

Carbuncle often begins, with a chill and fever, as a pimple, and rapidly increases in size forming a hot, dusky red, rounded lump which may grow until it is from three to six inches in diameter. Occasionally it runs a mild course, remains small, and begins to discharge pus and dead tissue at the end of a week and heals rapidly. More commonly the pain soon becomes

Carbuncle

intense, of a burning, throbbing character, and the carbuncle continues to enlarge for a week or ten days, when it softens and breaks open at various points discharging shreds of dead tissue and pus. The skin over the whole top of the carbuncle dies and sloughs away, leaving an angry-looking excavation or crater-like ulcer. This slowly heals from the edges and bottom, so that the whole period of healing occupies from a week to two, or even six months. The danger depends largely upon blood poisoning, and also upon pain, continuous fever, and exhaustion which follow it. Sweating and fever, higher at night, are the more prominent signs of blood poisoning.

Carbuncles differ from boils in being much larger, in having rounded or flat tops instead of the conical shape of boils, in having numerous, sievelike openings, in the occurrence of death of the skin over the top of the carbuncle, and in being accompanied by intense pain and high fever.

Treatment.—Carbuncle demands the earliest incision by a skilled surgeon, as it is only by cutting it freely open, or even removing the whole carbuncle as if it were a tumor, that the best results are accomplished. However, when a surgeon cannot be obtained, the patient's strength should be sustained by feeding every two hours with beef tea, milk and raw eggs, and with wine or alcoholic liquors. Three two-grain quinine pills and ten drops of the tincture of the chloride of iron in water should be given three times daily.

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The local treatment consists in applying large, hot, fresh flaxseed poultices frequently, with the removal of all dead tissue with scissors, which have been boiled in water for ten minutes. When the pain is not unbearable, dressings made by soaking thick sheets of absorbent cotton in hot solution of corrosive sublimate (1 to 1,000 as directed under Boils, p. 161) should be applied and covered by oil silk or rubber cloth and bandage. They are preferable to poultices as being better germ destroyers, but are not so comfortable. When the dead tissue comes away and the carbuncle presents a red, raw surface, it should be washed twice a day in the 1 to 1,000 corrosive-sublimate solution, dusted with pure boric acid, and covered with clean, dry absorbent cotton and bandage.

ECZEMA; SALT RHEUM; TETTER.—Eczema is really a catarrhal inflammation of the skin, with the exudate (fluid that escapes) concealed beneath the surface, or appearing on the surface after irritation has occurred. The many varieties are best classified as follows:

(1) Eczema of internal origin, including cases due to morbid agencies produced within the body, cases due to drugs, and possibly reflex cases.

(2) Eczema of external origin, including cases caused by occupation, by climate, or by seborrhea.

Eczema of internal origin almost invariably appears on both sides of the body at once, as on both cheeks, or both arms, or both thighs. Its border shades

Eczema

into the surrounding skin, it is dotted with papules (or heads) filled with fluid, and its surface is clean and not greasy. As it spreads, the symmetry of distribution is lost. Among the morbid agencies producing this variety of eczema are the products of indigestion. Among the drugs producing it is cod-liver oil.

Occupation eczema occurs first on exposed parts, as the hands, arms, face, and neck, in those who handle irritant dyes, sugar, formalin, etc.

Climatic eczema includes the "winter itch," common in this latitude, appearing on wrists and ankles in the form of clean, scaly patches, often ringed.

The seborrheic variety spreads from the scalp to the folds of the skin. Its borders are sharply defined, and its crusts and scales yellowish and greasy. It spreads from a center in all directions at once.

Treatment.—The treatment of eczema puzzles a physician, and only specialists in skin diseases are able easily to diagnose the subacute or chronic forms. It may appear different, and need different treatment almost from day to day, and consequently only general suggestions can be made for home management of a case of this disease.

The outlook is always good; and even in the case of weak and debilitated patients, there is excellent chance of cure.

The diet must be regulated at once. Meat should be eaten in small quantities once a day only, and none but very digestible meats should be eaten, as fowl, beef,

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and lamb. Sugar and sweet food need be cut down only when there is indigestion with a production of gas. Fresh air and exercise are imperative. Five grains of calomel, at night, followed by one heaped tablespoonful of Rochelle salts dissolved in a full tumbler of water the next morning before breakfast, should be repeated twice a week till marked improvement is seen. Meanwhile, external treatment must be pushed.

Generally speaking, ointments must not be used on weeping or exuding surfaces; all scales and crusts must be removed from the surface; and acute patches must be soothed, chronic patches stimulated. Water is harmful and increases the trouble; but it is necessary to use it once, in cleansing the affected area, in the form of soap and water. If there are thick, adherent crusts, a poultice of boiled starch, covered with a muslin cloth, will loosen them in a night. Thickened or horny layers on the palms and soles may be covered with salicylic plaster (ten per cent strength), which is removed after two days, and the whole part soaked in warm water, when the horny layer is to be peeled off. Thickened surfaces are best treated with wood tar, in the form of oil of cade ointment, or the "pix liquida" of the drug shops mixed with twice its amount of olive oil. This should be well rubbed into the affected part.

Seborrheic eczema of the scalp and neighboring areas is best treated with a four per cent ointment of ammoniated mercury, rubbed in once a day for five days, followed by the application of a solution of resor-

Eczema

cin in water, four grains to the ounce. Weeping and exuding patches should be treated with powdered stearate of zinc, or oleate of bismuth, or aristol, either one dusted on till the area is fairly covered. When the surface begins to dry up, the following paste may be applied:

Salicylic acid.....	5 to 15 grains
Zinc oxide.....	2 drams
Powdered starch.....	2 drams
Vaseline	1 ounce

If weeping returns, stop the ointment and resume the powder treatment, or use the following lotion:

Zinc oleate.....	1 dram
Magnesium carbonate.....	1 dram
Ichthyol.....	$\frac{1}{2}$ ounce
Lime water	4 ounces

When the skin after scaling off becomes thin, all swelling having disappeared, lead plaster is of service, or diachylon ointment twenty-five per cent, made with olive oil.

An eczema of moderate extent should recover after four to six weeks' treatment, unless the soles or palms be attacked, when six or more months of treatment may be necessary.

If itching is pronounced, remove crusts and scabs after soaking with olive oil, dust borax, finely powdered on the surface. If the itching is not controlled in twenty minutes, wipe off the borax with a very oily

cloth (using olive oil), and then apply a little solution of carbolic acid (made by adding a half teaspoonful of carbolic acid to a pint of hot water). If this does not allay the itching, wipe it off thoroughly with the oiled cloth, and rub in the tar ointment made of equal parts of "pix liquida" and olive oil. After the itching ceases, treat as directed according to the variety existing. Itching often disappears after a good saline cathartic has acted—Rochelle salts, solution of magnesia citrate, or phosphate of soda. Scratching must be avoided. In the case of children it is prevented by putting mittens of muslin on the hands.

The best cathartic for young children is a teaspoonful of castor oil. Carbolic-acid solution must not be used on them. The folds and creases of their skin must be kept dry and powdered with borated talcum. A great point in the treatment of all eczema is to avoid the use of water, and to substitute oiling with olive oil and wiping off for the usual washing of the affected area.

BALDNESS AND DANDRUFF.—Baldness is commonly caused by seborrhea of the scalp, an affection probably due to a microbe, and consisting of an inflammation of the skin, with great increase of dandruff of a thick, greasy variety. Sometimes it appears as a thick film, not only covering the scalp, but also the forehead and back of the neck. The greasy substance should be removed with olive oil or vaseline, and the scalp treated with ointment of ammoniated

Baldness and Dandruff

mercury, four per cent strength. Shampoos with tar-soap suds should be given once in four or five weeks, and the hair should not be wet with water between the shampoos. The hair must be arranged by combing, the brush being used to smooth the surface of the hair only. Deep and repeated brushing does great damage, which is equalled only by the frequent washing some ill-advised sufferers employ. Massage of the scalp is useless to control seborrheic eczema, which is practically always present in these cases.

Tight hats are sometimes a cause of baldness. The lead used in the preparation of the "sweat leather" of hats is said to be a cause of loss of hair over the temples. When once killed, hair can rarely be made to grow again. Early treatment of seborrhea is the best preventive of baldness.

The baldness occurring during an attack of syphilis, when the hair falls out in round patches, is treated and often relieved by antisyphilitic remedies (see p. 210).

CHAPTER III

Rheumatism and Kindred Diseases

Causes of Rheumatic Fever—Relief of Pain in the Joints—Lumbago—Stiff Neck—Gout—Symptoms and Cure of Scurvy.

RHEUMATIC FEVER; INFLAMMATORY RHEUMATISM; ACUTE RHEUMATISM.—This variety of rheumatism is quite distinct from the other forms, being in all probability due to some special germ. It occurs in temperate climates during the fall, winter, and spring—less often in summer. Persons more frequently suffer between the ages of ten and forty years. It is rare in infants; their pain and swelling of the limbs can be attributed more often to scurvy (p. 180), or to surgical disease with abscess of joint or bone. Exposure to cold and damp, in persons insufficiently fed, fatigued, or overworked, is the most common exciting cause.

Symptoms.—Rheumatic fever may begin with tonsillitis, or other sore throat, with fever and pains in the joints. The joints rapidly become very painful, hot, red, swollen, and tender, the larger joints, as the knees, wrists, ankles, and elbows, being attacked in turn, the inflammation skipping from one joint to another. The muscles near the joints may be also somewhat swollen and tender. With the fever, which may be

Rheumatic Fever

high (the temperature ranging from 102° to 104° F.), there are rapid pulse, copious sweating, and often the development of various rashes and minute blisters on the skin. There is also loss of appetite, and the bowels are constipated. The urine is usually very dark-colored. Altogether, victims of the disease are truly pitiable, for they suffer agony, and are unable to move without increasing it. The weakness and prostration are marked. Small, hard lumps, from the size of a shot to that of a pea, sometimes appear on the skin of the fingers, hands, wrists, knees, and elbows. These are not tender; they last for weeks and months. They are seen more often in children, and are most characteristic of rheumatic fever, but do not show themselves till late in the disease.

Complications of rheumatic fever are many. In about half the cases the heart becomes involved, and more or less permanent crippling of the heart persists in after life. Unconsciousness and convulsions may develop—more often when the fever runs high.

Lung trouble and pleurisy are not infrequent. Chorea or St. Vitus's dance follows inflammatory rheumatism, in children, in some instances. Repeated attacks at intervals, varying from one to four or five years, are rather the rule—more particularly in young persons. Acute rheumatism frequently takes a milder form, with slight fever (the temperature running not over 100° or 101° F.) and slight pain, and swelling of the joints. In children this is

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a common occurrence, but heart disease is just as apt to follow, and, therefore, such cases should receive a physician's attention at the earliest moment. Recovery from rheumatic fever is the usual result, but with an increased tendency to future attacks, and with the possibility of more or less permanent weakness of the heart, for acute rheumatism is the most common origin of chronic heart troubles. The milder form often follows the more severe, and may persist for a long time. The duration of rheumatic fever is variable; in severe cases the patient is bedridden for six weeks or so.

Rheumatism may be named through a mistake in diagnosis. There are numerous other febrile disorders in which inflammation of the joints may occur. Among these are gonorrhea, pneumonia, scarlet fever, blood poisoning, diphtheria, etc. The joint trouble in these cases is caused by the toxins accompanying the special germ which occasions the original disease, and the joint inflammation is not in any way connected with rheumatism. The constant attention of a physician is emphatically demanded in every case of rheumatic fever, since the complications are so numerous, and since permanent damage of the heart may be prevented by proper care. Only frequent examinations of the heart by the medical man will reveal the presence or absence of heart complications.

Treatment.—It appears extremely doubtful whether rheumatic fever can be cut short by any form of treat-

Rheumatic Fever

ment. The disease is self-limited, that is, it will pass away of itself after a certain time. The pain, however, can be rapidly abated by treatment. Warmth is of great value. It is best for the patient to sleep between blankets instead of sheets, and to wear flannel nightgowns, changing them as often as they become damp with sweat. To facilitate the changing, it is well to have the nightgowns slit all down the front, and also on the outside of the sleeves. Wrapping the joints in cotton batting and applying splints to secure absolute rest are great aids to comfort. The diet should be fluid, consisting of gruels, milk, broths, and soups. To relieve pain in the joints, cloths, wrung out of a saturated solution of baking soda and very hot water, wrapped about the joint and covered with oil silk will be found extremely serviceable. Oil of wintergreen is another remedy which has proven of value when applied to the joints on cloths saturated in the oil and covered with cotton wool.

The bed must be smooth and soft, with good springs. High fever is reduced by the employment of cold to the head and by sponging the body with cool water at intervals of two hours or so.

The two drugs of most value are some form of salicylic acid and an alkali. Sodium salicylate in solution in water should be given to the adult in doses of ten to fifteen grains every two hours till the pain is relieved, and then once in four hours as long as the fever lasts. At the same time baking soda should be administered

every three hours, one-half a level teaspoonful dissolved in water, and this may be continued as long as the fever persists. The patient must use a bedpan in relieving the bladder and bowels, and should remain in bed for a great while if the heart is damaged. It is a disease which no layman should think of treating if it is possible to obtain the services of a medical man.

MUSCULAR RHEUMATISM (*Myalgia*).—In this disease there is pain in the muscles, which may be constant, but is more pronounced on movement. Exposure to cold and wet, combined with muscular strain, frequently excite an attack. On the other hand, it often occurs during hot, dry, fine weather. Attacks last usually but a few days, but may be prolonged for weeks. The pain may be dull, as if the muscle had been bruised, but is often very sharp and cramplike. There is, commonly, slight, if any, fever, and no general disturbance of the health. The following are the most common varieties:

LUMBAGO.—This attacks the muscles in the small part of the back. It comes on often with great suddenness, as on stooping or lifting. It may be so severe that the body cannot be moved, and the patient may fall in the street or be unable to rise or turn in bed. In less severe cases the pain "catches" the patient when attempting to straighten up after stooping. Pain in the back is often attributed by the laity to Bright's disease, but is rarely seen in the latter disorder, and is much more often due to rheumatism.

Rheumatism of the Chest

STIFF NECK.—This is a very common variety of muscular rheumatism, and is seen more especially in young persons. It may appear very suddenly, as on awakening. It attacks the muscles of one side and back of the neck. The head is held stiffly to one side, and to turn the head the body must be turned also, as moving the neck causes severe pain. Sometimes the pain on moving the neck suddenly, or getting it into certain positions, is agonizing, but when it is held in other positions a fair amount of comfort may be secured.

RHEUMATISM OF THE CHEST.—In this form there is more or less constant pain, much increased by coughing, sneezing, taking long breaths, or by movements. It attacks usually one side, more often the left. It may resemble neuralgia or pleurisy. In neuralgia the pain is more limited and comes in sharper attacks, and there are painful spots. The absence of fever in rheumatism of the chest will tend to separate it from pleurisy, in which there is, moreover, often cough. Examination of the chest by a physician, to determine the breath sounds, is the only method to secure certainty in this matter.

Muscular rheumatism also affects the muscles about the shoulder and shoulder blade and upper part of the back; sometimes also the muscles of the belly and limbs.

Treatment.—Rest, heat, and rubbing are the most satisfactory remedies. In stiff neck, rub well with

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some liniment, as chloroform liniment, and lie in bed on a hot-water bag. Phenacetin or salophen in doses of ten grains, not repeated more frequently than once in four hours for an adult, may afford relief; only two or three doses should be taken in all. In lumbago the patient should remain in bed and have the back ironed with a hot flatiron, the skin being protected by a piece of flannel. This should be repeated several times a day. Or a large, hot, flaxseed poultice may be applied to the back, and repeated as often as it becomes cool. At other times the patient may lie on a hot-water bag. Plasters will give comfort in milder cases, or when the patient is able to leave the bed. A good cathartic, as two compound cathartic pills, sometimes acts very favorably at the beginning of the attack. Salicylate of sodium is a useful remedy in many cases, the patient taking ten grains three times daily, in tablets after eating, for a number of days. In rheumatism of the chest, securing immobility by strapping the chest, as recommended for broken rib (Vol. I, p. 84), gives more comfort than any other form of treatment. Many other measures may be employed by the physician, and are applicable in persistent cases, as electricity and tonics. The hot bath, or Turkish bath, will sometimes cut short an attack of muscular rheumatism if employed at the onset of the trouble.

CHRONIC RHEUMATISM.—Chronic rheumatism is a disease attacking persons of middle age, or after, and is seen more commonly in poor, hard-work-

Chronic Rheumatism

ing individuals who have been exposed to cold and damp, as laborers and washerwomen. Several of the larger joints, as the knees, shoulders, and hips, are usually affected, but occasionally only one joint is attacked. There is little swelling and no redness about the joint; the chief symptoms are pain on motion, stiffness, and tenderness on pressure. The pain is increased by cold, damp weather, and improved by warm, dry weather. There is no fever. The general health suffers if the pain is severe and persistent, and patients become pale, dyspeptic, and weak. The disease tends rather to grow worse than recover, and the joints, after a long time, to become immovable and misshapen. Life is not, however, shortened to any considerable degree by chronic rheumatism. Heart disease is not caused by this form of rheumatism, although it may arise from somewhat similar tendencies existing in the same patient. It may be distinguished from other varieties of rheumatism by the fact that the larger joints are those attacked, and also by the age of the patients and general progress of the disease. It very rarely follows acute rheumatism.

Treatment.—The treatment of chronic rheumatism is generally not very successful unless the patient can live in a warm, dry climate the year round. Painting the joint with tincture of iodine and keeping it bandaged in flannel affords some relief. The application of a cold, wet cloth covered with oil silk and bandage, by night, also proves useful. Hot baths at night,

Turkish baths, or special treatment conducted under the supervision of a competent medical man at one of the hot, natural, mineral springs, as those in Virginia, often prove of great value. Rubbing and movement of the joints is of much service in all cases; any liniment may be used. Drugs are of minor importance, but cod-liver oil and tonics may be required. These should be prescribed by a physician.

RHEUMATIC GOUT (*Arthritis*). — Notwithstanding the name, this disease has no connection with either gout or the other forms of rheumatism described. It occurs much more frequently in women, with the exception of that form in which a single joint is attacked. The disease may appear at any age, but more often it begins between the years of thirty and fifty-five. The cause is still a matter of doubt, although it often follows, or is associated with, nervous diseases, and in other cases the onset seems to be connected with the existence of influenza or gonorrhea, so that it may be of germ origin. Constant exposure to cold and dampness, excessive care and anxiety, and injury are thought to favor the disease. The disease is sometimes limited to the smaller joints of the fingers and toes, little, hard knobs appearing on them. At times the joints may be swollen, tender, and red, and are usually so at the beginning of the disease, as well as at irregular intervals, owing to indigestion, or following injury. At first only one joint, as of the middle finger, may be attacked, and often the cor-

Rheumatic Gout

responding finger on the other hand is next affected. The joints of the fingers become enlarged, deformed, and stiffened. The results of the disease are permanent so far as the deformity is concerned and the stiffness which causes interference with the movement of the finger joints, but the disease may stop during any period of its development, leaving a serviceable, though somewhat crippled, hand. In these cases the larger joints are not generally involved. There is some evidence to indicate that this form of the disease is more commonly seen in the long-lived.

General Form.—In this type the disease tends to attack all the joints, and, in many cases, to go from bad to worse. The hands are usually first attacked, then the knees, feet, and other joints. In the worst cases every joint in the body becomes diseased, so that even movements of the jaw may become difficult. There are at first slight swelling, pain and redness about the joints, with tenderness on pressure. Creaking and grating are often heard during motion of the affected joints. This condition may improve or subside for intervals, but gradually the joints become misshapen and deformed. The joints are enlarged, and irregular and stiff; the fingers become drawn over toward the little finger, or bent toward the palm, and are wasted and clawlike. The larger limbs are often bent and cannot be straightened, and the muscles waste away, making the joints look larger. In the worst cases the patient becomes absolutely crippled,

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helpless, and bedridden, and the joints become immovable. The pain may be great and persistent, or slight. Usually the pain grows less as the disease advances. Numbness and tingling of the skin often trouble the patient, and the skin is sometimes smooth and glossy or freckled.

The general health suffers, and weakness, anæmia, and dyspepsia are common. Even though most of the joints become useless, there is often sufficient suppleness in the fingers to allow of their use, as in writing or knitting. In old men the disease is seen attacking one joint alone, as the hip, shoulder, knee, and spine. Children are occasionally sufferers, and in young women it may follow frequent confinements or nursing, and often begins in them like a mild attack of rheumatic fever. The heart is not damaged by rheumatic gout.

It is frequently impossible to distinguish rheumatic gout from chronic rheumatism in the beginning. In the latter, creaking and grating sounds on movement of the joints are less marked, the small joints, as of the hand, are not so generally attacked, nor are there as great deformity and loss of motion as is seen in late cases of rheumatic gout.

Outlook.—It often happens that after attacking several joints, the disease is completely arrested and the patient becomes free from pain, and only a certain amount of interference with the use of the joint and stiffness remain. Life is not necessarily shortened by

Scurvy

the disease. The deformity and crippling are permanent.

Treatment.—Rheumatic gout is a chronic disease in most instances, and requires the careful study and continuous care of the medical man. He may frequently be able to arrest it in the earlier stages, and prevent a life of pain and helplessness. In a general way nourishing food, as milk, eggs, cream, and butter, with abundance of fresh vegetables, should be taken to the extent of the digestive powers. Everything that tends to reduce the patient's strength must be avoided. Cod-liver oil and tonics should be used over long periods. Various forms of baths are valuable, as the hot-air bath, and hot natural or artificial baths. A dry, warm climate is most appropriate, and flannel clothing should be worn the year round. Moderate exercise and outdoor life, in warm weather, are advisable, and massage, except during the acute attacks of pain and inflammation, is beneficial. Surgical measures will sometimes aid patients in regaining the usefulness of crippled limbs.

SCURVY.—Scurvy used to be much more common than it is now. In the Civil War there were nearly 50,000 cases in the Union Army. Sailors and soldiers have been the common victims, but now the disease occurs most often among the poorly fed, on shore. It is caused by a diet containing neither fresh vegetables, preserved vegetables, nor vegetable juices. In the absence of vegetables, limes, lemons, oranges,

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or vinegar will prevent the disease. It is also thought that poisonous substances in the food may occasion scurvy, as tainted meat has experimentally produced in monkeys a disease resembling it. Certain conditions, as fatigue, cold, damp quarters, mental depression and homesickness, favor the development of the disease. It attacks all ages, but is most severe in the old.

Symptoms.—Scurvy begins with general weakness and paleness. The skin is dry, and has a dirty hue. The gums become swollen, tender, spongy, and bleed easily, and later they may ulcerate and the teeth loosen and drop out. The tongue is swollen, and saliva flows freely. The appetite is poor and chewing painful, and the breath has a bad odor. The ankles swell, and bluish spots appear on the legs which may be raised in lumps above the surface. The patient suffers from pain in the legs, which sometimes become swollen and hard. The blue spots are also seen on the arms and body, and are due to bleeding under the skin, and come on the slightest bruising. Occasionally there is bleeding from the nose and bowels. The joints are often swollen, tender, and painful. Constipation is rather the rule, but in bad cases there may be diarrhea, nausea, and vomiting, and the victim becomes a walking skeleton. Mental depression or delirium may be present.

Treatment.—Recovery is usually rapid and complete, unless the disease is far advanced. Soups, fresh

Infantile Scurvy

milk, beef juice, and lemon or orange juice may be given at first, when the digestion is weak, and then green vegetables, as spinach (with vinegar), lettuce, cabbage, and potatoes. The soreness of the mouth is relieved by a wash containing one teaspoonful of carbolic acid to the quart of hot water. This should be used to rinse the mouth several times daily, but must not be swallowed. Painting the gums with a two per cent solution of silver nitrate in water, by means of a camel's-hair brush, twice daily, will also prove serviceable. To act as a tonic, a two-grain quinine pill and two Blaud's pills of iron may be given three times daily.

INFANTILE SCURVY.—Scurvy occasionally occurs in infants between twelve and eighteen months of age, and is due to feeding on patent foods, condensed milk, malted milk, and sterilized milk. In case it is essential to use sterilized or pasteurized milk, if the baby receives orange juice, as advised under the care of infants, scurvy will not develop.

Scurvy is frequently mistaken for either rheumatism or paralysis in babies.

Symptoms.—The lower limbs become painful, and the baby cries out when it is moved. The legs are at first drawn up and become swollen all around just above the knees, but not the knee joints themselves. Later the whole thigh swells, and the baby lies without moving the legs, with the feet rolled outward and appears to be paralyzed, although it is only pain which

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prevents movement of the legs. Sometimes there is swelling about the wrist and forearm, and the breast-bone may appear sunken in. Purplish spots occur on the legs and other parts of the body. The gums, if there are teeth present, become soft, tender, spongy, and bleed easily. There may be slight fever, the temperature ranging from 101° to 102° F. The babies are exceedingly pale, and lose all strength.

Treatment.—The treatment is very simple, and recovery rapidly takes place as soon as it is carried out. The feeding of all patent baby foods—condensed or sterilized milk—must be instantly stopped. A diet of fresh milk, beef juice, and orange juice, as directed under the care of infants, will bring about a speedy cure.

GOUT.—Notwithstanding the frequency with which one encounters allusions to gout in English literature, it is unquestionably a rare disease in the United States. In the Massachusetts General Hospital there were, among 28,000 patients admitted in the last ten years, but four cases of gout. This is not an altogether fair criterion, as patients with gout are not generally of the class who seek hospitals, nor is the disease one of those which would be most likely to lead one into a hospital. Still, the experience of physicians in private practice substantiates the view of the rarity of gout in this country.

We are still ignorant of the exact changes in the bodily condition which lead to gout, but may say in

Gout

a general way that in this disease certain products, derived from our food and from the wear and tear of tissues, are not properly used up or eliminated, and are retained in the body. One of these products is known as sodium biurate, and is deposited in the joints, giving rise to the inflammation and changes to be described. Gout occurs chiefly in men past forty. The tendency to the disease is usually inherited. Overeating, together with insufficient exercise and indulgence in alcohol, are conducive to its development in susceptible persons. Injuries, violent emotion, and exposure to cold are also thought to favor attacks.

The heavier beers and ales of England, together with their stronger wines, as port, Madeira, sherries, and champagne, are more prone to induce gout than the lighter beers drunk in the United States and Germany. Distilled liquors, as brandy and whisky, are not so likely to occasion gout. "Poor man's gout" may arise in individuals who lead the most temperate lives, if they have a strong inherited tendency to the disease, or when digestion and assimilative disorders are present, as well as in the case of the poor who drink much beer and live in bad surroundings, and have improper and insufficient food. Workers in lead, as typesetters and house painters, are more liable to gout than others.

Symptoms.—There is often a set of preliminary symptoms varying in different persons, and giving warning of an approaching attack of gout, such as

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neuralgic pains, dyspepsia, irritability, and mental depression, with restless nights. An acute attack generally begins in the early morning with sudden, sharp, excruciating pain in the larger joint of one of the big toes, more often the right, which becomes rapidly dark red, mottled, swollen, hot, tense, shiny, and exceedingly sensitive to touch. There is commonly some fever; a temperature of 102° to 103° F. may exist. The pain subsides in most cases to a considerable degree during the day, only to return for several nights, the whole period of suffering lasting from four to eight days. Occasionally the pain may be present without the redness, swelling, etc., or *vice versa*.

Other joints may be involved, particularly the joint of the big toe of the other foot. Complete recovery ensues, as a rule, after the first attack, and the patient may thereafter feel exceptionally well. A return of the disease is rather to be expected. Several attacks within the year are not uncommon, or they may appear at much longer intervals.

Occasionally the gout seems to "strike in." In this case it suddenly leaves the foot and attacks the heart, causing the patient severe pain in that region and great distress in breathing; or the abdomen becomes the seat of violent pain, and vomiting, diarrhea, collapse and death rarely result. In the later history of such patients, the acute attacks may cease and various joints become chronically diseased, so that the case assumes the appearance of a chronic form of

Gout

rheumatism. The early history of attacks of sharp pain in the great toe and the appearance of hard deposits (chalk stones) in the knuckles and the ears are characteristic of gout.

The greatest variety of other disorders are common in those who have suffered from gout, or in those who have inherited the tendency. "Goutiness" is sometimes used to describe such a condition. In this there may never be any attacks of pain or inflammation affecting the joints, but eczema and other skin diseases; tonsilitis, neuralgia, indigestion and biliousness, lumbago and other muscular pains, sick headache, bronchitis, disease of heart and kidneys, with a tendency to apoplexy, dark-colored urine, stone in the bladder, and a hot, itching sensation in the palms of the hands and soles of the feet, all give evidence of the gouty constitution.

Treatment.—One of the most popular remedies is colchicum—a powerful drug and one which should only be taken under the direction of a physician. A cathartic at the beginning is useful; for instance, two compound cathartic pills or five grains of calomel. It is well to give five grains of lithium citrate dissolved in a glass of hot water every three hours.

Laville's antigout liquid, imported by Fougere of New York, taken according to directions, may suffice during the absence of a physician. The inflamed toe should be raised on a chair or pillow, and hot cloths may be applied to it. The general treatment, between

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the attacks, consists in the avoidance of all forms of alcohol, the use of a diet rich in vegetables, except peas, beans, and oatmeal, with meats sparingly and but once daily. Sweets must be reduced to the minimum, but cereals and breadstuffs are generally allowable, except hot bread. All fried articles of food, all smoked or salted meats, smoked or salted fish, pastry, griddle cakes, gravies, spices and seasoning, except red pepper and salt, and all indigestibles are strictly forbidden, including Welsh rarebit, etc. Fruit may be generally eaten, but not strawberries nor bananas. Large quantities of pure water should be taken between meals—at least three pints daily. Mineral waters offer no particular advantage.

Part III
SEXUAL HYGIENE
BY
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CHAPTER I

Health and Purity

Duties of Parents—Abuse of the Sexual Function—False Teachings—Criminal Neglect—Secure the Child's Confidence—The Best Corrections—Marriage Relations.

EVERY individual should know how to care for the sexual organs as well as those of any other part of the body, providing that the instruction be given by the proper person and at the proper time and place. Such information should be imparted to children by parents, guardians, or physicians at an early age and, if this is neglected through ignorance or false modesty, erroneous ideas of the nature and purpose of the sexual function will very surely be supplied later by ignorant and probably evil-minded persons with correspondingly bad results. There is no other responsibility in the whole range of parental duties which is so commonly shirked and with such deplorable consequences. When the subject is shorn of the morbid and seductive mystery with which custom has foolishly surrounded it in the past, and considered in the same spirit with which we study the hygiene of the digestion and other natural functions, it will be found possible to give instruction about the sexual function in a natural way and without exciting unhealthy and morbid curiosity.

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A word in the beginning as to the harm produced by abuse of the sexual function. The injury thus received is purposely magnified tenfold for reasons of gain by quacks who work upon the fears of their victims for their own selfish purposes. The voluntary exercise of the sexual function—unlike that of any other important organs—is not necessary to health until maturity has been reached; on the contrary, continence is conducive to health, both physical and mental. Even after maturity, unless marriage occurs, or by improper living the sexual desires are unnaturally stimulated, it is quite possible to maintain perfect health through life without exercising the sexual function at all. Undue irritation of the sexual organs causes disorder of the nervous system, and if continued it will result ultimately in overfatigue and failure of the nervous activities which control the normal functions of every organ in the body. In other words, it will result in nervous exhaustion.

Damage is also wrought by exciting local irritation, congestion, and inflammation of the sexual organs which result in impairment of the proper functions of these parts and in local disorders and distress. It is unnecessary further to particularize other than to state that abuse of the sexual organs in the young is usually owing to the almost criminal neglect or ignorance of the child's parents. But so far from increasing alarm in the patient it is almost always possible to enable the child to be rid of the habit by

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kindly instruction and judicious oversight in the future, and no serious permanent local damage to the sexual organs or general injury to the nervous system will be likely to persist. The opposite teaching is that peculiar to the quack who prophesies every imaginable evil, from complete loss of sexual function to insanity. Any real or fancied disorder of the sexual function is extremely apt to lead to much mental anxiety and depression, so that a cheerful outlook is essential in inspiring effort to correct bad habits and is wholly warranted in view of the entire recovery in most cases of the young who have abused their sexual organs. Insanity or imbecility are seldom the result but more often the cause of such habits. It is a sad fact, however, that, under the prevailing custom of failure of the parents to exercise proper supervision over the sexual function of their children, self-abuse is generally practiced in youth, at least by boys.

This often leads to temporary physical and mental suffering and is very prejudicial to the morals, but does not commonly result in permanent injury except in the degenerate. Children at an early age—three to four years—should be taught not to touch, handle, rub, or irritate their sexual organs in any way whatsoever except so far as is necessary in urination or in the course of the daily cleansing. If there seems to be any inclination to do so it will usually be found that it is due to some local trouble to which a physician's attention should be called and which may generally

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be readily remedied by him. It is always advisable to ask the medical adviser to examine babies for any existing trouble and abnormality of the sexual organs, as a tight, adherent, or elongated foreskin in boys—and rarely a corresponding condition in girls—may give rise to much local irritation and remote nervous disturbances. The presence of worms may lead to irritation in the bowel, which excites masturbation in children. Girl babies should be watched to prevent them from irritating the external sexual parts by rubbing them between the inner surfaces of the thighs. As the child begins to play with other children he or she should be cautioned to avoid those who in any way try to thwart the parents' advice, and be instructed to report all such occurrences. It is wise also to try and gratify the child's natural curiosity about the sexual function so far as may be judicious by explanations as to the purpose of the sexual organs, when the child is old enough to comprehend such matters.

The reticence and disinclination of parents to instruct their children in matters relating to sex cannot be too strongly condemned. It is perfectly natural that the youth should wish to know something of the origin of life and how human beings come into the world. The mystery and concealment thrown around these matters only serve to stimulate his curiosity. It is a habit of most parents to rebuke any questions relating to this subject as improper and immodest, and the first lesson the child learns is to associate the idea

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of shame with the sexual organs; and, since he is not enlightened by his natural instructors, he picks up his knowledge of the sex function in a haphazard way from older and often depraved companions.

Evasive replies with the intent of staving off the dreaded explanation do no good and may result in unexpected evil. By securing the child's confidence at the start, one may not only keep informed of his actions but protect him from seeking or even listening to bad counsels. At the age of ten or twelve it is well that the family physician or parent should give instruction as to the special harm which results from unnaturally exciting the sexual nature by handling and stimulating the sexual organs and also warning the child against filthy literature and improper companions. At the age of puberty he should be warned against the moral and physical dangers of sexual intercourse with lewd women. The physical dangers refer to the great possibility of infection with one or both of the common diseases—syphilis and gonorrhea—acquired by sexual contact with one suffering from these terrible disorders (p. 199). It is usually quite impossible for a layman to detect the presence of these diseases in others, or rather, to be sure of their absence, and the permanent damage which may be wrought to the sufferer and to others with whom he may have sexual relations is incalculable. It is generally known that syphilis is a disease to be dreaded, but not perhaps that it not only endangers the life

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and happiness of the patient, but the future generation of his descendants. Gonorrhea—the much more common disease—while often treated lightly by youth, frequently leads to long, chronic, local disease and may even result fatally in death; later in life it may cause infection of a wife resulting in chronic invalidism and necessitating surgical removal of her maternal organs. These possibilities often occur long after the patient thinks he is wholly free from the disease. Gonorrhea in women is the most frequent cause of their sterility, and also is a common source of abortion and premature birth. It is the cause in most cases of blindness in infants (p. 205) and also of vulvo-vaginitis in girl babies. Furthermore, gonorrhea is so alarmingly prevalent that it is stated on good authority that the disease occurs in eighty per cent of all males some time during their lives. The disease is not confined to prostitutes, but is common, much more frequently than is suspected, in all walks and classes of life and at all ages. Even among boys attending boarding schools and similar institutions the disease is only too frequent. It is particularly important that the true situation be explained to boys about to enter college or a business career, for it is at this period of life that their temptations become greatest. Alcohol is the most dangerous foe—next to bad companions—with which they must contend in this matter, for, weakened by its influence and associated with persuasive friends, their will gives way and the advice and

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warning, which they may have received, are forgotten. Idleness is also another influential factor in indirectly causing sexual disease; hard physical and mental work are powerful correctives of the passions.

It may be of interest to readers to know that but recently an association of American physicians, alarmed by the fearful prevalence of sexual diseases in this country, has been taking measures to inform youths and adults and the general public, through special instruction in schools, and by means of pamphlets and lectures to teachers and others, of the prevalence and great danger of this evil.

When young adult life has been attained it is also desirable for the parent, or the family physician, to inform the young man or woman—especially if either is about to enter a marriage engagement—that close and frequent personal contact with the opposite sex, especially when the affections are involved, will necessarily, though involuntarily, excite local stimulation of the sexual organs and general irritability and exhaustion of the entire nervous system. Long engagements—when the participants are frequent companions—are thus peculiarly unfortunate. It is only when the sexual functions are normally exercised in adult life, as in sexual intercourse, that sexual excitement is not harmful.

Young women about to marry should receive instruction from their mothers as to the sexual relations which will exist after marriage. Most girls are al-

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lowed to grow up ignorant of such matters and in consequence may become greatly shocked and even disgusted by the sexual relations in marriage—fancying that there must be something unnatural and wrong about them because the subject was avoided by those responsible for their welfare.

Any excess in frequency of sexual intercourse after marriage is followed by feelings of depression and debility of some sort which may be readily attributed to the cause and so corrected. Any deviation from the natural mode of intercourse is pretty certain to lead to physical disaster; thus, unnatural prolongation of the act, or withdrawal on the part of the man before the natural completion of the act in order to prevent conception, often results in deplorable nervous disorders.

In conclusion, it may be said that parents must take upon themselves the burden of instructing their children in sexual hygiene or shift it upon the shoulders of the family physician, who can undertake it with much less mental perturbation and with more intelligence. Otherwise they subject their offspring to the possibility of incalculable suffering, disease, and even death—largely through their own inexcusable neglect.

CHAPTER II

Genito-Urinary Diseases

Contagious Disorders—Common Troubles of Children—Inflammation of the Bladder—Stoppage and Suppression of Urine—Causes and Treatment of Bright's Disease.

GONORRHEA.—Gonorrhea is a contagious inflammation of the urethra, accompanied by a white or yellowish discharge. It is caused by a specific germ, the *gonococcus*, and is acquired through sexual intercourse with a person suffering from this disease. Exceptionally the disease may be conveyed by objects soiled with the discharge, as basins, towels, and, in children, diapers, so that in institutions for infants it may be thus transferred from one to the other, causing an epidemic. The mucous membrane of the lower part of the bowel and the eyes are also subject to the disease through contamination with the discharge. The disease begins usually three to seven days after sexual intercourse, with symptoms of burning, smarting, and pain on urination, and a watery discharge from the passage, soon followed by a yellowish or white secretion. Swelling of the penis, frequent urination, and painful erections are also common symptoms. The disease, if uncomplicated and running a favorable

Gonorrhea

course, may end in recovery within six weeks or earlier, with proper treatment. On the other hand, complications are exceedingly frequent, and the disorder often terminates in a chronic inflammation which may persist for years—even without the knowledge of the patient—and may result in the infection of others after all visible signs have ceased to appear.

Treatment.—Rest is the most important requisite; at first, best in bed; if not, the patient should keep as quiet as possible for several days. The diet should consist of large quantities of water or milk, or milk and vichy, with bread, cereals, potatoes, and vegetables—absolutely avoiding alcohol in any form. Sexual intercourse is harmful at any stage in the disease and will communicate the infection. Aperient salts should be taken to keep the bowels loose. The penis should be soaked in hot water three times daily to reduce the inflammation and cleanse the organ. A small wad of absorbent cotton may be held in place by drawing the foreskin over it to absorb the discharge, or may be held in place by means of a bag fitting over the penis. All cloths, cotton, etc., which have become soiled with the discharge, should be burned, and the hands should be washed after contact with the discharge; otherwise the contagion may be conveyed to the eyes, producing blindness. It is advisable for the patient to take one-half teaspoonful of baking soda in water three times daily between meals for the first four or five days, or, better, fifteen grains of potassium citrate and fifteen

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drops of sweet spirit of nitre in the same way. Painful erections may be relieved by bathing the penis in cold water, urinating every three hours, and taking twenty grains of sodium bromide at night in water. After all swelling and pain have subsided, local treatment may be begun.

Injectons or irrigations with various medicated fluids constitute the best and most efficient measures of local treatment. They should be used only under the advice and management of the physician. No greater mistake can be made than to resort to the advertising quack, the druggist's clerk, or the prescription furnished by an obliging friend. Skillful treatment, resulting in a complete radical cure, may save him much suffering from avoidable complications and months or years of chronic trouble.

At the same time the first medicines advised are stopped and oleoresin of cubebs, five grains, or copai-ba balsam, ten grains—or both together—are to be taken three times daily after meals, in capsules, for several weeks, unless they disturb the digestion too much. A suspensory bandage should be worn throughout the continuance of the disease. The approach of the cure of the disease is marked by a diminution in the quantity and a change in the character of the discharge, which becomes thinner and less purulent and reduced to merely a drop in the passage in the early morning, but this may continue for a great while. Chronic discharge of this kind and the complications cannot be

Gonorrhea

treated properly by the patient, but require skilled medical care.

In this connection it may be said that most patients have an idea that the subsidence or disappearance of the discharge is an evidence of the cure of the disease. Experience shows that the disease may lapse into a latent or chronic form and remain quiescent, without visible symptoms, during a prolonged period, while susceptible of being revived under the influence of alcoholic drinks or sexual intercourse. It is important that treatment should be continued until all disease germs are destroyed, which can only be determined by an examination of the secretions from the urethra under the microscope.

The more common complications of gonorrhea are inflammation of the glands in the groin (bubo), acute inflammation of the prostate glands and bladder, of the seminal vesicles, or of the testicles. The latter complication is a most common cause of sterility in men. Formerly it was thought that gonorrhea was a local inflammation confined to the urinary canal and neighboring parts, but advances in our knowledge have shown that the germs may be taken up into the general circulation and affect any part of the body, such as the muscles, joints, heart, lungs, liver, spleen, kidneys, etc., with results always serious and often fatal to life. One of the most common complications is gonorrheal arthritis, which may affect one or several joints and result in stiffness or complete loss of move-

ment of the affected joint, with more or less deformity and permanent disability. Another complication is gonorrheal inflammation of the eye, from direct transference of the pus by the fingers or otherwise, and resulting in partial or complete blindness.

GONORRHEA IN WOMEN.—Gonorrhea in women is a much more frequent and serious disease than was formerly supposed. The general impression among the laity is that gonorrhea in women is limited to the prostitute and vicious classes who indulge in licentious relations. Unfortunately, this is not the case. There is perhaps more gonorrhea, in the aggregate, among virtuous and respectable wives than among professional prostitutes, and the explanation is the following: A large proportion of men contract the disease at or before the marrying age. The great majority are not cured, and the disease simply lapses into a latent form. Many of them marry, believing themselves cured, and ignorant of the fact that they are bearers of contagion. They transmit the disease to the women they marry, many of whom, from motives of modesty and an unwillingness to undergo an examination do not consult a physician, and they remain ignorant of the existence of the disease until the health is seriously involved. In women, gonorrhea is not usually so acute and painful as in men, unless it involves the urethra. It usually begins with smarting and painful urination, with frequent desire to urinate and with a more or less abundant discharge from the front passage. In the majority of

Gonorrhea in Women

cases the infection takes place in the deeper parts, that is, in the neck or body of the womb. In this location it may not give rise at first to painful symptoms, and the patient often attributes the increased discharge to an aggravation of leucorrhea from which she may have suffered. The special danger to women from gonorrhea is that the inflammation is apt to be aggravated during the menstrual period and the germs of the disease ascend to the cavity of the womb, the tubes, and ovaries, and invade the peritoneal covering, causing peritonitis. Pregnancy and childbirth afford favorable opportunities for the upward ascension of the germs to the peritoneal cavity. The changes caused by gonorrheal inflammation in the maternal organs are the most common cause of sterility in women. It is estimated that about fifty per cent of all sterility in women proceeds from this cause. In addition to its effects upon the child-bearing function, the danger to the health of such women is always serious. In the large proportion of cases they are made permanent invalids, no longer able to walk freely, but compelled to pass their lives in a reclining position until worn out by suffering, which can only be relieved by the surgical removal of their maternal organs. It is estimated that from fifty to sixty per cent of all operations performed on the maternal organs of women are due to disease caused by gonorrheal inflammation.

Treatment.—Rest in bed, the use of injections of hot water, medicated with various astringents, by

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means of a fountain syringe in the front passage three times daily, and the same remedies and bath recommended above, with hot sitz baths, will usually relieve the distress. In view of the serious character of this affection in women and its unfortunate results when not properly treated, it is important that they should have the benefit of prompt and skillful treatment by a physician. Otherwise, the health and life of the patient may be seriously compromised.

The social danger of gonorrhea introduced after marriage is not limited to the risks to the health of the woman. When a woman thus infected bears a child the contagion of the disease may be conveyed to the eyes of the child in the process of birth. Gonorrheal pus is the most virulent of all poisons. A single drop of the pus transferred to the eye may destroy this organ in from twenty-four to forty-eight hours. It is estimated that from seventy-five to eighty per cent of all babies blinded at birth have suffered from this cause, while from twenty to thirty per cent of blindness from all causes is due to gonorrhea. While the horrors of this disease in the newborn have been mitigated by what is called the Cr  d   method (instillation of nitrate of silver solution in the eye immediately after birth), it still remains one of the most common factors in the causation of blindness. Another social danger is caused by the pus being conveyed to the genital parts of female children, either at birth or by some object upon which it has been

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accidentally deposited, such as clothes, sponges, diapers, etc. These cases are very common in babies' hospitals and institutions for the care of children. Quite a number of epidemics have been traced to this cause. The disease occurring in children is exceedingly difficult of cure and is often followed by impairment in the development of their maternal organs. Much of the ill health of young girls from disordered menstruation and other uterine diseases may be traced to this cause. Another serious infection in babies and young children is gonorrheal inflammation of the joints, with more or less permanent crippling.

SYPHILIS; THE POX; LUES.—Syphilis is a contagious germ disease affecting the entire system. While commonly acquired through sexual intercourse with a person affected with the disorder, it may be inherited from the parents, one or both. It is often acquired through accidental contact with sources of contagion. Syphilis and tuberculosis are the two great destroyers of health and happiness, but syphilis is the more common.

Symptoms.—Acquired syphilis may be divided into three stages: the primary, secondary, and tertiary. The first stage is characterized by the appearance of a pimple or sore on the surface of the sexual organ not usually earlier than two, nor later than five to seven, weeks after sexual intercourse. The appearance of this first sore is subject to such variations that it is not always possible for even the most skillful physician

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to determine positively the presence of syphilis in any individual until the symptoms characteristic of the second stage develop. Following the pimple on the surface of the penis comes a raw sore with hard deposit beneath, as of a coin under the skin. It may be so slight as to pass unnoticed or become a large ulcer, and may last from a few weeks to several months. There are several other kinds of sores which have no connection with syphilis and yet may resemble the syphilitic sore so closely that it becomes impossible to distinguish between them except by the later symptoms to be described. Along with this sore, lumps usually occur in one or both groins, due to enlarged glands.

The second stage appears in six to seven weeks after the initial sore, and is characterized by the occurrence of a copper-colored rash over the body, but not often on the face, which resembles measles considerably. Sometimes a pimply or scaly eruption is seen following this or in place of the red rash. At about, or preceding, this period other symptoms may develop, as fever, headache, nausea, loss of appetite, and sleeplessness, but these may not be prominent. Moist patches may appear on the skin, in the armpits, between the toes, and about the rectum; or warty outgrowths in the latter region. There is sore throat, with frequently grayish patches on the inside of the cheeks, lips, and tongue. The hair falls out in patches or, less often, is all lost. Inflammation of the eye is sometimes a symptom. These symptoms do not always

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occur at the same time, and some may be absent or less noticeable than others.

The third stage comes on after months or years, or in those subjected to treatment may not occur at all. This stage is characterized by sores and ulcerations on the skin and deeper tissues, and the occurrence of disease of different organs of the body, including the muscles, bones, nervous system, and blood vessels; every internal organ is susceptible to syphilitic change.

A great many affections of the internal organs—the heart, lungs, liver, kidneys, brain, and cord—which were formerly attributed to other causes, are now recognized as the product of syphilis. The central nervous system is peculiarly susceptible to the action of the syphilitic poison, and when affected may show the fact through paralysis, crippling, disabling, and disfiguring disorders.

Years after cure has apparently resulted, patients are more liable to certain nervous disorders, as locomotor ataxia, which attacks practically only syphilitics; and general paresis, of which seventy-five per cent of the cases occur in those who have had syphilis.

Inherited Syphilis.—Children born with syphilis of syphilitic parents show the disease at birth or usually within one or two months. They present a gaunt, wasted appearance, suffer continually from snuffles or nasal catarrh, have sores and cracks about the lips, loss of hair, and troublesome skin eruptions. The syphilitic child has been described as a “little old man

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with a cold in his head." The internal organs are almost invariably diseased, and sixty to eighty per cent of the cases fortunately die. Those who live to grow up are puny and poorly developed, so that at twenty they look not older than twelve, and are always delicate.

It is to be noted that syphilis is not necessarily a venereal disease, that is, acquired through sexual relations. It may be communicated by kissing, by accidental contact with a sore on a patient's body, by the use of pipes, cups, spoons, or other eating or drinking utensils, or contact with any object upon which the virus of the disease has been deposited.

Any part of the surface of the body or mucous membrane is susceptible of being inoculated with the virus of syphilis, followed by a sore similar to what has been described as occurring upon the genital parts and later the development of constitutional symptoms. The contagiousness of the disease is supposed to last during the first three years of its existence, but there are many authentic cases of contagion occurring after four or five years of syphilis.

Diagnosis.—The positive determination of the existence of syphilis at the earliest moment is of the utmost importance in order to set at rest doubt and that treatment may be begun. It is necessary to wait, however, until the appearance of the eruption, sore throat, enlargement of glands, falling out of hair, etc., before it is safe to be positive.

Syphilis

conception—and yet the mother escape the disease. On the other hand, it is not uncommon for the child to become thus infected and infect its mother while in her womb; or the mother may receive syphilis from the husband after conception, and the child become infected in the womb.

The chief social danger of syphilis comes from its introduction into marriage and its morbid radiations through family and social life. Probably one in every five cases of syphilis in women is communicated by the husband in the marriage relation. There are so many sources and modes of its contagion that it is spread from one person to another in the ordinary relations of family and social life—from husband to wife and child, from child to nurse, and to other members of the family, so that small epidemics of syphilis may be traced to its introduction into a family. Syphilis is the only disease which is transmitted in full virulence to the offspring, and its effect is simply murderous. As seen above, from sixty to eighty per cent of all children die before or soon after birth. One-third of those born alive die within the next six months, and those that finally survive are blighted in their development, both physical and mental, and affected with various organic defects and deformities which unfit them for the battle of life. Syphilis has come to be recognized as one of the most powerful factors in the depopulation and degeneration of the race.

**INVOLUNTARY PASSAGE OF URINE—
BED-WETTING IN CHILDREN.**—(*Incontinence*

of Urine).—This refers to an escape of urine from the bladder uncontrolled by the will. It naturally occurs in infants under thirty months, or thereabouts, and in the very old, and in connection with various diseases. It may be due to disease of the brain, as in idiocy or insanity, apoplexy, or unconscious states. Injuries or disorders of the spinal cord, which controls the action of the bladder (subject to the brain), also cause incontinence. Local disorders of the urinary organs are more frequent causes of the trouble, as inflammation of any part of the urinary tract, diabetes, nephritis, stone in the bladder, tumors, and malformations. The involuntary passage of urine may arise from irritability of bladder—the most frequent cause—or from weakness of the muscles which restrain the escape of urine, or from obstruction to flow of urine from the bladder, with overflow when it becomes distended.

It is a very common disorder of children and young persons, and in some cases no cause can be found; but in many instances it is due to masturbation (p. 193), to a narrow foreskin and small aperture at the exit of the urinary passage, to worms in the bowels or disease of the lower end of the bowels, such as fissure or eczema, to digestive disorders, to retaining the urine overlong, to fright, to dream impressions (dreaming of the act of urination), and to great weakness brought on by fevers or other diseases. In old men it is often

Involuntary Passage of Urine

due to an enlargement of a gland at the neck of the bladder which prevents the bladder from closing properly. A concentrated and irritating urine, from excessive acidity or alkalinity, may induce incontinence.

Children may recover from it as they approach adult life, but they should not be punished, as it is a disease and not a fault. Exception should be made in case children wet their clothing during play, through failure to take the time and trouble to pass water naturally. It is more common among children at night, leading to wetting of the bed, but may occur in the day, and often improves in the spring and summer, only to return with the cold weather. Children who sleep very soundly are more apt to be subject to this disorder.

Treatment.—In the case of a disorder depending upon one of so many conditions it will be realized that it would be folly for the layman to attempt to treat it. Children who are weak need building up in every possible way, as by an outdoor life, cold sponging daily, etc. If there is in boys a long foreskin, or tight foreskin, hindering the escape of urine and natural secretions of this part, circumcision may be performed to advantage by the surgeon, even in the infant a few months old. Sometimes a simpler operation, consisting of stretching or overdistending the foreskin, can be done.

A somewhat corresponding condition in girls occasionally causes bed-wetting and other troubles. It can be discovered by a physician. Children who wet their

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beds, or clothes, should not drink liquid after five in the afternoon, and should be taken up frequently during the night to pass water. The bed covering must be light, and they should be prevented from lying on the back while asleep by wearing a towel knotted in the small part of the back. Elevation of the foot of the bed a few inches is recommended as having a corrective influence. Masturbation, if present, must be corrected.

It is a very difficult disorder to treat, and physicians must be excused for failures even after every attempt has been made to discover and remove the cause. Even when cure seems assured, the disorder may recur.

INFLAMMATION OF THE BLADDER (*Cystitis*).—The condition which we describe under this head commonly causes frequent painful urination. Primarily there is usually some agency which mechanically or chemically irritates the bladder, and if the irritation does not subside, inflammation follows owing to the entrance of germs in some manner. The introduction into the bladder of unboiled, and therefore unclean, instruments is a cause; another cause is failure to pass urine for a long period, from a feeling of delicacy in some persons when in unfavorable surroundings. Nervous spasm of the urinary passage from pain, injuries, and surgical operations constitutes another cause. Inflammation may extend from neighboring parts and attack the bladder, as in gonorrhea, and in various inflammations of the sexual organs of women, as in childbed infection. Certain foods, waters, and

Inflammation of the Bladder

drinks, as alcohol in large amounts, and drugs, as turpentine or cantharides applied externally or given internally, may lead to irritation of the bladder. Exposure to cold in susceptible persons is frequently a source of cystitis, as well as external blows and injuries. The foregoing causes are apt to bring on sudden or acute attacks of bladder trouble, but often the disease comes on slowly and is continuous or chronic.

Among the causes of chronic cystitis, in men over fifty, is obstruction to the outflow of urine from enlargement of the prostate gland, which blocks the exit from the bladder. In young men, narrowing of the urethra, a sequel to gonorrhea, may also cause cystitis; also stone in the bladder or foreign bodies, tumors growing in the bladder, tuberculosis of the organ. Paralysis of the bladder, which renders the organ incapable of emptying itself, thus retaining some fermenting urine, is another cause of bladder inflammation.

Symptoms.—The combination of frequency of and pain during urination, with the appearance of blood or white cloudiness and sediment in the urine, are evidences of the existence of inflammation of the bladder. The trouble is aggravated by standing, jolting, or active exercise. The pain may be felt either at the beginning or end of urination. There is also generally a feeling of weight and heaviness low down in the belly, or about the lower part of the bowel. Blood is not frequently present, but the urine is not clear, if there is much inflammation, but deposits a white and

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often slimy sediment on standing. In chronic inflammation of the bladder the urine often has a foul odor and smells of ammonia.

Treatment.—The treatment of acute cystitis consists in rest—preferably on the back, with the legs drawn up, in bed. The diet should be chiefly fluid, as milk and pure water, flaxseed tea, or mineral waters. Potassium citrate, fifteen grains, and sweet spirit of nitre, fifteen drops, may be given in water to advantage three times daily. Hot full baths or sitz baths two or three times a day, and in women hot vaginal douches (that is, injections into the front passage), with hot poultices or the hot-water bag over the lower part of the abdomen, will serve to relieve the suffering. If, however, the pain and frequency attending urination is considerable, nothing is so efficient as a suppository containing one-quarter grain each of morphine sulphate and belladonna extract, which should be introduced into the bowel and repeated once in three hours if necessary. This treatment should be employed only under the advice of a physician. In chronic cystitis, urotropin in five-grain doses dissolved in a glass of water and taken four times daily often affords great relief, but these cases demand careful study by a physician to determine their cause, and often local treatment. Avoidance of all source of irritation is also essential in these cases, as sexual excitement and the use of alcohol and spices. The diet should consist chiefly of cereals and vegetables, with an abundance of

Retention of Urine

milk and water. The bowels should be kept loose by means of hot rectal injections in acute cystitis.

RETENTION, STOPPAGE, OR SUPPRESSION OF URINE.—Retention refers to that condition where the urine has been accumulating in the bladder for a considerable time—over twelve hours—and cannot be passed. It may follow an obstruction from disease, to which is added temporary swelling and nervous contraction of some part of the urinary passage; or it may be due to spasm and closure of the outlet from nervous irritation, as in the cases of injuries and surgical operations in the vicinity of the sexual organs, the rectum, or in other parts of the body. Overdistention of the bladder from failure to pass water for a long time may lead to a condition where urination becomes an impossibility. Various general diseases, as severe fevers, and conditions of unconsciousness, and other disorders of the nervous system, are frequently accompanied by retention of urine. In retention of urine there is often an escape of a little urine from time to time, and not necessarily entire absence of outflow.

Treatment.—Retention of urine is a serious condition. If not relieved, it may end in death from toxæmia, caused by back pressure on the kidneys, or from rupture of the bladder. Therefore surgical assistance is demanded as soon as it can be obtained. Failing this, begin with the simpler methods. A hot sitz bath, or, if the patient cannot move, hot applications, as

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a hot poultice or hot cloths applied over the lower part of the belly, may afford relief. Injections of hot water into the bowel are often more efficient still. A single full dose of opium in some form, as fifteen drops of laudanum¹ or two teaspoonfuls of paregoric¹ or one-quarter grain of morphine,¹ will frequently allow of a free passage of urine. The introduction of a suppository into the bowel, containing one-quarter grain each of morphine sulphate,¹ and belladonna extract, is often preferable to giving the drug by the mouth. These measures proving of no avail, the next endeavor should be to pass a catheter. If a soft rubber or elastic catheter is used with reasonable care, little damage can be done, even by a novice. The catheter should be boiled in water for ten minutes, and after washing his hands thoroughly the attendant should anoint the catheter with sweet oil (which has been boiled) or clean vaseline and proceed to introduce the catheter slowly into the urinary passage until the urine begins to flow out through the instrument.

A medium-sized catheter is most generally suitable, as a No. 16 of the French scale, or a No. 8½ of the English scale.

BRIGHT'S DISEASE OF THE KIDNEYS.—

Bright's disease of the kidneys is acute or chronic, and its presence can be definitely determined only by chemical and microscopical examination of the urine. Acute Bright's disease coming on in persons previ-

¹ Caution. Dangerous. Use only on physician's order.

Acute Bright's Disease

ously well may often, however, present certain symptoms by which its existence may be suspected even by the layman.

ACUTE BRIGHT'S DISEASE; ACUTE INFLAMMATION OF THE KIDNEYS.—Acute Bright's disease is often the result of exposure to cold and wet. Inflammation of the kidneys may be produced by swallowing turpentine, many of the cheap flavoring extracts in large amounts, carbolic acid, and Spanish flies; the external use of large quantities of turpentine, carbolic acid, or Spanish flies may also lead to acute inflammation of the kidneys. It occurs occasionally in pregnant women. The contagious germ diseases are very frequently the source of acute Bright's disease either as a complication or sequel. Thus scarlet fever is the most frequent cause, but measles, smallpox, chickenpox, yellow fever, typhoid fever, erysipelas, diphtheria, cholera, and malaria are also causative factors.

Symptoms.—Acute Bright's disease may develop suddenly with pallor and puffiness of the face owing to dropsy. The eyelids, ankles, legs, and lower part of the belly are apt to show the dropsy most. There may be nausea, vomiting, pain and lameness in the small part of the back, chills and fever, loss of appetite, and often constipation. In children convulsions sometimes appear. The urine is small in amount, perhaps not more than a cupful in twenty-four hours, instead of the normal daily excretion of three pints. Occasionally

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complete suppression of urine occurs. It is high-colored, either smoky or of a porter color, or sometimes a dark or even bright red, from the pressure of blood. Stupor and unconsciousness may supervene in severe cases. Recovery usually occurs, in favorable cases, within a few weeks, with gradually diminishing dropsy and increasing secretion of urine, or the disease may end in a chronic disorder of the kidneys. If acute Bright's disease is caused by, or complicated with, other diseases, the probable result becomes much more difficult to predict.

Treatment.—The failure of the kidneys to perform their usual function of eliminating waste matter from the blood makes it necessary for the skin and bowels to do double duty. The patient should remain in bed and be kept very warm with flannel night clothes and blankets next the body. The diet should consist wholly of milk, a glass every two hours, in those with whom it agrees, and in others gruels may be substituted to some extent. The addition to milk of mineral waters, limewater, small amounts of tea, coffee, or salt often makes it more palatable to those otherwise disliking it. As the patient improves, bread and butter, green and juicy vegetables, and fruits may be permitted. An abundance of pure water is always desirable. The bowels should be kept loose from the outset by salts given in as little water as possible and immediately followed by a glass of pure water. A teaspoonful may be given hourly till the bowels move.

Chronic Bright's Disease

Epsom or Glauber's salts are efficient, but the compound jalap powder is the best purgative. Children, or those to whom these remedies are repugnant, may take the solution of citrate of magnesia, of which the dose is one-half to a whole bottle for adults. The skin is stimulated by the patient's lying in a hot bath for twenty minutes each day or, if this is not possible, by wrapping the patient in a blanket wrung out of hot water and covered by a dry blanket, and then by a rubber or waterproof sheet, and he is allowed to remain in it for an hour with a cold cloth to the head. If the patient takes the hot bath he should be immediately wrapped in warmed blankets on leaving it, and receive a hot drink of lemonade to stimulate sweating.

For treatment of convulsions, see Vol. I, p. 188.

Vomiting is allayed by swallowing cracked ice, single doses of bismuth subnitrate (one-quarter teaspoonful) once in three hours, and by heat applied externally over the stomach. Recovery is hastened by avoiding cold and damp, and persisting with a liquid diet for a considerable period. A course of iron is usually desirable after a few weeks have elapsed to improve the quality of the blood; ten drops of the tincture of the chloride of iron taken in water through a glass tube by adults; for children five to ten drops of the syrup of the iodide of iron. In either case the medicine should be taken three times daily after meals.

CHRONIC BRIGHT'S DISEASE.—This includes several forms of kidney disease. The symptoms

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are often very obscure, and the condition may not be discovered or suspected by the physician until an examination of the urine is made, which should always be done in any case of serious or obscure disorder. Accidental discovery of Bright's disease during examination for life insurance is not rare. The disease may exist for years without serious impairment resulting.

Causes.—Chronic Bright's disease often follows and is the result of fevers and acute inflammation of the kidneys. It is more common in adults. Overeating, more especially of meat, and overdrinking of alcohol are frequent causes. Gout is a frequent factor in its causation. The disease has in the past been regarded as a local disease of the kidneys, but recent research makes it probable that there is a general disorder of the system due to some faulty assimilation of food—especially when the diet itself is faulty—with the production of chemical products which damage various organs in the body as well as the kidneys, notably the heart and blood vessels.

Symptoms.—The symptoms are most diverse and varied and it is not possible to be sure of the existence of the disease without a careful physical examination, together with a complete examination of the urine, both made by a competent physician. Patients may be afflicted with the disease for long periods without any symptoms until some sudden complication calls attention to the underlying trouble. Symptoms sug-

Chronic Bright's Disease

gesting chronic Bright's disease are among the following: indigestion, diarrhea and vomiting, frequent headache, shortness of breath, weakness, paleness, puffiness of the eyelids, swelling of the feet in the morning, dropsy, failure of eyesight, and nosebleed, and sometimes apoplexy. As the disease comes on slowly the patient has usually time to apply for medical aid, and attention is called to the foregoing symptoms merely to emphasize the importance of attending to such in due season.

Outcome.—While the outlook as to complete recovery is very discouraging, yet persons may live and be able to work for years in comparative comfort in many cases. When a physician pronounces the verdict of chronic Bright's disease, it is not by any means equivalent to a death warrant, but the condition is often compatible with many years of usefulness and freedom from serious suffering.

Treatment.—Medicines will no more cure Bright's disease than old age. Out-of-door life in a dry, warm, and equable climate has the most favorable influence upon the cause of chronic Bright's disease, and should always be recommended as a remedial agent when available. Proper diet is of great importance. Cereals, vegetables, an abundance of fat in the form of butter and cream—to the amount of a pint or so a day of the latter, and the avoidance of alcohol and meat, fish and eggs constitute the ideal regimen when this can be carried out. Tea and coffee in much modera-

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tion are usually allowable and water in abundance. The underclothing should be of wool the year round, and especial care is essential to avoid chilling of the surface. Medicines have their usefulness to relieve special conditions, but should only be taken at the advice of a physician, whose services should always be secured when available.

CHAPTER I

Insanity

INSANITY is the name given to a collection of symptoms of disease of the brain or disorder of brain nutrition or circulation. The principal test of insanity lies in the adjustment of the patient to his surroundings, as evidenced in conduct and speech. Yet one must not include within the field of insanity the improper conduct and speech of the vicious, nor of the mentally defective. Crime is not insanity, though there are undoubtedly some insane people confined in prisons who have been arrested because of the commission of crime.

Then, too, while mental defect may exist in the insane, there is a certain class of mental defectives whose condition is due not to disease of the brain, but to arrest of development of the brain during childhood or youth, and these we call idiots or imbeciles; but they are not classed with the insane.

Mental Disorder Not Insanity

We frequently hear repeated the assertion, "Everybody is a little insane," and the quotation is reported as coming from an expert in insanity. This quotation is untrue. The fact is that anyone is liable to mental

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disorder ; but mental disorder is not insanity. To illustrate : a green glove is shown to a certain man and he asserts that its color is brown, and you cannot prove to him that he is wrong, because he is color-blind. Green and brown appear alike to him. This is mental disorder, but not insanity. Again, a friend will explain to you how he can make a large profit by investing his money in a certain way. He does so invest it and loses it, because he has overlooked certain factors, has not given proper weight to certain influences, and has ignored probable occurrences, all of which were apparent to you. He was a victim of his mental disorder, his judgment, reason, and conception being faulty ; yet he was not insane. Again, you answer a letter from a correspondent, copying on the envelope the address you read at the head of his letter. A few days later your answer is returned to you undelivered. In astonishment, you refer to his letter and find that you have misread the address he gave, mistaking the number of his house. This was an instance of mental disorder in your not reading the figure aright ; but it was not insanity.

What Autopsies of the Brain Reveal

The changes in the brain accompanying or resulting from disease, as found in some chronic cases of insanity in which autopsies are made, consist largely in alteration of the nerve cells of the brain. The cells are smaller and fewer than they should be, they are altered in shape,

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and their threads of communication with other cells are broken. Nerve cells and often large areas of gray matter are replaced by connective tissue (resembling scar tissue), which grows and increases in what would otherwise be vacant spaces. All areas which contain this connective tissue, this filling which has no function, of course, cease to join with other parts of the brain in concerted action, and so the power of the brain is diminished, and certain of its activities are restricted or abolished.

Curious Illusions of the Insane

In the normal brain certain impressions are received from the special senses : impressions of sight or of hearing, for example. These impressions are called conscious perceptions, and the healthy brain groups them together and forms concepts. For instance, you see something which is flat and shiny with square-cut edges. You touch it, and learn that it is cold, smooth, and hard. Lift it and you find it heavy. Grouping together your sense perceptions you form the concept, and decide that the object is a piece of marble. Again, you enter a dimly lighted room and see a figure in a corner the height of a woman, with a gown like a woman's. You approach it, speak to it and get no reply, and you find you can walk directly through it, for it is a shadow. Perhaps you were frightened. Perhaps you imagined she was a thief. Your first judgment was wrong and you correct it. The insane person,

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however, has defective mental processes. He cannot group together his perceptions and form proper conceptions. His imagination runs riot. His emotions of fear or anger are not easily limited. He has to some extent lost the control over his mental actions that you and other people possess if your brains are normal. The insane man will insist that there is a woman there, and not a shadow, and to his mind it is not absurd to walk directly through this person. He cannot correct the wrong idea. Such a wrongly interpreted sense perception is called an illusion. Another example of illusion is the mistaking the whistle of a locomotive for the shriek of a pursuing assassin.

What Hallucinations Are

The insane man may also suffer from hallucinations. A hallucination is a false perception arising without external sensory experience. In a hallucination of sight, the disease in the brain causes irritation to be carried to the sight-centers of the brain, with a result that is similar to the impression carried to the same centers by the optic nerves when light is reflected into the eyes from some object. An insane man may be deluded with the belief that he sees a face against the wall where there is nothing at all. When the air is pure and sweet and no odor is discoverable, he may smell feathers burning, and thus reveal his hallucination of smell.

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Delusions Common to Insanity

The insane man may have wrong ideas without logical reason for them. Thus, an insane man may declare that a beautiful actress is in love with him, when there is absolutely no foundation for such an idea. Or, he may believe that he can lift 500 pounds and run faster than a locomotive can go, while in reality he is so feeble as scarcely to be able to walk, and unable to dress himself. Such ideas are delusions. Sane people may be mistaken; they may have hallucinations, illusions and delusions; but they abandon their mistaken notions and correct their judgment at once, on being shown their errors. Sane people see the force of logical argument, and act upon it, abandoning all irrational ideas. The insane person, on the other hand, cannot see the force of logical argument; cannot realize the absurdity or impossibility of error. He clings to his own beliefs, for the evidence of his perverted senses or the deductions from his disease-irritation are very real to him. When we find this to be the fact we know he is insane.

Yet we must not confound delirium of fever with insanity. A patient suffering from typhoid fever may have a delusion that there is a pail by his bed into which he persists in throwing articles. Or he may have the hallucination that he is being called into the next room, and try to obey the supposed voice.

Certain delusions are commonly found in certain

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types of insanity. Depressed patients frequently manifest the delusion that they have committed a great sin, and are unfit to associate with anyone. Excited and maniacal patients often believe they are important personages—kings or queens, old historical celebrities, etc. Paranoiacs commonly have delusions of persecution and of a conspiracy among their relatives or their associates or rivals. Victims of alcoholic insanity have delusions regarding sexual matters, and generally charge with infidelity those to whom they are married. General paretics in most cases have delusions of grandeur; that is, false ideas of great strength, wealth, political power, beauty, etc.

The emotion which accompanies mental activity is generally exaggerated in all insane people except the demented. One sees extreme depression, or undue elation and exaltation, or silly glee and absurd joy. Intensity of emotion is frequent.

Crimes Impulsively Committed by the Insane

An interesting mental feature of many insane patients is the imperative conception, or imperative impulse. This is a strong urging felt by the patient to commit a certain act. He may know the act is wrong and dread the punishment which he expects will follow its commission. But so constantly and strongly is he impelled that he finally yields and commits the act. Crimes are thus perpetrated by the insane, with a full

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knowledge of their enormity. The fact that such impulses undoubtedly exist should modify the common test, as to an insane person's responsibility before the law. The statute in many countries regards an insane criminal as responsible for his act, if he knows the difference between right and wrong. This decision is unjust and the basis is wrong; for an impulse may be overwhelming, and the patient utterly helpless during its continuance. However, a patient who has committed a crime under stress of such an irresistible impulse should be put under permanent custodial care.

Physical Signs of Insanity

The physician who is skilled in psychiatry finds in very many insane patients marked physical signs. There are pains, insensitive areas, hypersensitive areas, changes in the pupils of the eyes, unrestrained reflex action, and partial loss of muscular control, as shown in talking, walking, and writing. Constipation and insomnia are very early symptoms of disease in a very large proportion of the insane.

It is productive of no good result for a layman to try to classify the insane. The matter of classification will be for several years in a condition of developmental change. It is enough to speak of the patient as depressed or excited, agitated or stupid, talkative or mute, homicidal, suicidal, neglectful, uncleanly in personal habits, etc.

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Illustrations of Various Types

There are very interesting features connected with typical instances of several varieties of insanity, as they were noted in certain cases under the writer's care. A depressed patient with suicidal tendencies cherished the delusion that war with Great Britain was imminent, and that in such an event British troops would be landed on Long Island between New York City and the spot where he conceived the cattle to be kept. This, he argued, would cut off the beef and milk supply from the city. He therefore decided to do his part toward husbanding the present supply of food by refusing to eat; an act which necessitated feeding him through a rubber tube for many weeks. He also attempted suicide by drowning, throwing himself face downward in a shallow swamp, whence he was rescued. This young man was an expert chess player even during his attack.

A maniacal patient wore on her head a tent of newspaper to keep the devil from coming through the ceiling and attacking her. She frequently heard her husband running about the upper floor with the devil on his back. As a further precaution she stained her gray hair red with pickled beet juice, and would occasionally hurl loose furniture at the walls and ceilings of her rooms and assault all who approached her.

A man who presented a case of dementia pulled the hairs from his beard and planted them in rows in the garden, watering them daily, and showing much aston-

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ishment that they did not grow. He spent hours each day in spelling words backward and forward, and also by repeating their letters in the order in which they appear in the alphabet. When he wanted funds he signed yellow fallen leaves with a needle, and they turned into money.

A case of general paresis (commonly though improperly called "softening of the brain") passed into the second stage as a delusion was uppermost to the effect that there was opium everywhere; opium in his hat, opium in his newspaper, opium in his bath sponge, opium in his food. He thereupon refused to eat, and was fed with a tube for two years, at the end of which time he resumed natural methods of nutrition and ate voraciously. Another general paretic promised to his physician such gifts as an ivory vest with diamond buttons, boasted of his great strength while scarcely able to walk alone, and declared he was a celebrated vocalist, while his lips and tongue were so tremulous he could scarcely articulate.

Fixed Delusions of Paranoia

Paranoia is an infrequent variety of insanity in which the patient is dominated by certain fixed delusions, while for a long time his intellect is but slightly impaired. The delusions are usually persecutory, and the patient alleges a conspiracy. He is generally deluded with the belief that he is a prominent person in

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history, or an Old Testament worthy, and there is usually a religious tinge to his delusions. A patient of the writer believed himself to be the reincarnation of Christ, appearing as "the Christ of the Jews and the Christ of the Christians" in one. Over the head of his landlord, who requested overdue rent, the patient fired a revolver, "to show that the reign of peace had begun in the world." He wrote a new bible for his followers, and arranged for a triumphal procession headed by his brother and himself on horseback, wearing white stars.

How the Physician Should Be Aided

When there is a suspicion of irrationality in a person's conduct, and certain acts or speeches suggest insanity, the whole surroundings and the past life must be considered. Frequently when the eyes are once opened to the fact of insanity, a whole chapter of corroborating peculiarities can be recalled. It is wise to recall as many of these circumstances as possible and note them in order as they occurred, for the use of the physician. Strikingly eccentric letters should be saved. Odd arrangement of clothes, or the collecting of useless articles, should be noted in writing. Changes in character, alteration in ideas of propriety, changes in disposition, business or social habits, and great variation in the bodily health should be noted in writing. Delusions, hallucinations, and illusions should be reported in full.

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It conveys nothing to anyone's mind to say that the patient is queer; tell what he does or says that leads you to think he is queer, and let the physician draw his own inferences from the deeds or speeches. Write down, for example, that the patient talks as if answering voices that are imaginary; or that the patient brought an ax into the dining room and stood it against the table during the meal; or that he paraded up and down the lawn with a wreath of willow branches about his neck; in each case stating the actual fact. It is important to ascertain exactly what the patient's habits are, as to the use of alcoholic beverages, tobacco, and drugs (such as opium), and also as to sexual matters. To secure such information is extremely difficult, and the help of a close friend or companion will be necessary. After the mind begins to waver many a patient plunges into dissipation, though formerly a model of propriety.

The Causes of Insanity

The two great causes of insanity are heredity and stress or strain. Lunacy is not infrequent in children of epileptic, alcoholic, or insane parents, and those born of parents suffering from nervous disease frequently are in such condition that shock, intense emotion, dissipation, or exhausting diseases render them insane. Drinking alcoholic beverages is the most potent factor in the production of insanity. Mental strain, overwork, and worry come next. Adverse conditions, bereave-

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ment, business troubles, etc., rank third, equally with heredity. The arterial diseases of old age, epilepsy, childbirth (generally in the neurotic), change of life, fright and nervous shock, venereal diseases, sexual excesses or irregularities follow in the order named.

A Temperate, Virtuous Life the Best Preventive

To avoid insanity, therefore, one should lead a righteous, industrious, sensible life, preserve as much equanimity as possible, and be content with moderate pleasure and moderate success. In many cases, people who are neurotic from early youth are so placed that unusual demands are made upon them. Adversity brings necessity for overwork, duties are manifold, and responsibilities are heavy. In ignorance of the fact that they are on dangerous ground and driven by circumstances, they overwork, cut short their sleep, and, conscientiously pressing on, finally lose their mental balance and insanity is the result, a great calamity which is really no fault of theirs. Undoubtedly such is frequently the sad history; and for this reason, as well as for the general reason that the insane are simply ill, all insane should be cared for sympathetically. To consider the insane as constantly malevolent is a relic of the old-time, absurd belief that insane people were "possessed of the devil." It is no disgrace to be insane, and the feeling of chagrin at discovering disease of the brain in a relative is another absurdity. Avoid-

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ance of insanity should be studied with as much devotion as avoidance of tuberculosis. Yet there should be no detracting from the fact that the heredity is strong. No one should be allowed to marry who has been insane, for the offspring of the insane are defective.

The tendency of the times is toward nervous and mental disorder. In the large cities the strain is too constant, the struggle is too keen, the pace is too swift. Haste to be rich, desire to appear rich, or ambition for social distinction has wrecked many a bright, strong intellect. This is the age of the greatest luxury the world has ever seen, and a large proportion of people in cities are living beyond their means, in the gratification of luxurious desires or the effort to appear as well as others. Stress and strain are voluntarily invited. Children are pushed in their studies and overloaded with too many subjects. Genius and insanity, worry and dementia, proceed among us hand in hand; the overwrought brain finally totters.

False Ideas Regarding Insanity

Curious ideas regarding insanity are common, and are apparently fostered by the reportorial writers of the daily papers. We read of people who are "insane on a subject." This is an impossibility. Many people can be drawn out and led into a betrayal of their mental condition only when a certain topic or idea is discussed. But although exhibiting their insane condition only

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when this topic is broached, they are in no respect sane. Not every act of an insane man is an insane act, we must remember. Forgetfulness of this fact leads to errors in the superficial. You will hear people say that a certain person must be sane, because during a half day's companionship nothing astray was noticed. True, there may be a long period of self-control, or of absence of test; but occasional conduct will establish the fact of constant insanity. Again, we hear the expression: "He cannot be insane; there is too much method in such madness." The answer to this silly remark is that there is method in all madness except some epileptic insanity and terminal dementia. Insane people prepare careful plans, with all the details thoroughly considered, and perfect methods to escape from hospitals with the greatest cunning. One must never take it for granted that the insane person is so demented mentally as to be unable to appreciate what is said and done. One should never talk about the insane man in his presence, but should include him in the conversation as if sane, as a general rule, allaying his suspicions and avoiding antagonism. Do not agree with the delusions of an insane person, except so far as may be necessary to draw them out. Yet avoid argument over them. Simply do not agree, and do not strengthen them by appearing to share them. His food should be prepared for him, and his medicines administered to him as to any other sick person. His baths should be regularly taken.

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A depressed patient should be very carefully watched. If the slightest suspicion of a suicidal impulse be present, the patient should never be left alone. Many a valuable life has been saved through the moral support of constant companionship; while we read very frequently of the death of an insane patient who sprang from a window during a brief period of relaxation of watchful care. Some people think it a protection to one insane to elicit from him a promise not to be depressed, and not to do anything wrong. One might as well secure a promise not to have a rise of temperature. The gloom of despondency and the suicidal impulse are as powerful as they are unwelcome and unsought; and the wretchedly unhappy patient cannot alone meet the issue and resist.

It is unreasonable to be offended by acts or speeches of an insane patient, to bear a grudge or expect an apology. Very frequently such a patient will turn savagely upon the nearest and dearest, and make cutting remarks and accusations or exhibit baseless contempt. All this conduct must be ignored and forgotten; for the unkind words of an unaccountable and really ill person should not be taken at all seriously.

Should a patient escape from home, it is the duty of the one in charge without hesitation to overtake him, and then accompany him or at least follow at a short distance. The nurse should go with and stay with the patient, telephoning or telegraphing home when opportunity offers, and finally securing aid; he

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should know where the patient is at all times, foregoing sleep if necessary to protect his charge, and should avoid as long as prudence permits the publicity of an arrest; though the latter may finally be essential to safety, and to the prevention of embarking on a voyage, or taking a train to a distance, or purchasing weapons.

Diversions.—Music favorably affects many patients, so the pleasure of listening to it should be afforded at frequent intervals. Patients should be encouraged to absorb themselves in it. It is often possible to take insane people to opera, musical comedy, or concert. Vocal and instrumental practice at suitable intervals is of great value in fixing the attention, filling the mind with desirable thoughts and memories, and allaying irritability. Drawing and painting are of service when within the number of the patient's accomplishments. Intellectual pastimes, as authors, anagrams, billiards, chess, and many games with playing cards, are generally helpful. Gardening, croquet, and tennis are very desirable. Golf, rowing, swimming, and skating are excellent, but are within the reach of very few insane patients. All regular occupation that necessitates attention and concentration is of supreme value; in fact, insane patients not infrequently ask for occupation and find relief in the accomplishment of something useful, as well as in the healthful sleep and increased appetite that attend judicious physical fatigue.

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The Beneficial Atmosphere of Sanitariums

After caring for an insane patient for a time at home, the question arises as to the desirability of sending him away to a sanitarium. Generally this is a wise course to pursue. The constant association with an insane person is undermining; the responsibility is often too heavy; children, often inheriting the same neurotic tendency and always impressionable, should not be exposed to the perverting influence; it may not be safe to keep a patient with suicidal or homicidal impulses in his home; the surroundings amid which the insane ideas first started may tend to continue a suggestion of these ideas. Removal to strange locality and new scenes, the influence of strangers, the abandonment of all responsibilities and duties, and the atmosphere of obedience, routine, and discipline are all beneficial. An insane person will generally make a greater effort for a stranger than for a familiar relative. Discipline, in the form of orders of the physicians, and exact obedience is very often very salutary. There is a feeling with some that all discipline is cruel. This is not so, for the conduct of an insane person is not all insane, but frequently needs correction. Many cases of mental alienation improve promptly under custodial care, many need it all their lives. A great many cases of insanity are never obliged to go away from home, and there is a considerable number who carry on a business while still insane, rear a family, and take care of

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themselves. In general, a depressed patient should be kept at home as long as there is absolute safety in so doing. Most other forms of mental disease progress more rapidly toward recovery in sanitariums or hospitals equipped for such patients. Prospects of recovery are never jeopardized by confinement in a proper institution. Mental and physical rest, quiet, regularity of eating, exercising, and sleeping are the essentials which underlie all successful treatment of these cases. Dietetics, diversion by means of games, music, etc., regular occupation of any practicable sort, together with the association with the hopeful, tactful, and reasoning minds of physicians and nurses trained for this purpose are of great value. It must be remembered that in wholly civilized localities madhouses have been replaced by hospitals, keepers have been replaced by nurses and attendants, and the old methods of punishment and coercion have been long since abandoned, in the light of modern compassionate custody.

Certain forms of insanity are hopeless from the start. Few recover after two years of mental aberration. Omitting the hopeless cases, over forty per cent of the cases of insanity recover. About sixty per cent recover of the cases classed as melancholia and mania. Most recoveries occur during the first year of the disease; but depressed patients may emerge and recover after several years' treatment.

APPENDIX

Patent Medicines ¹

THE term "patent medicine" is loosely used to designate all remedies of a secret, non-secret, or proprietary character, which are widely advertised to the public. This use of the name is erroneous, and it is better first to understand the exact difference between the different classes of medicines generally comprised under this heading. Only in this way can one comprehend their right and wrong use.

A Patent Medicine is a remedy which is patented. In order to secure this patent, an exact statement of the ingredients and the mode of manufacture must be filed with the government. These true "patent medicines" are generally artificial products of chemical manufacture, such as phenacetin. The very fact of their being patented makes them non-secret, and if an intelligent idea is held of their nature and mode of action, they may be properly used. Physicians with a full knowledge of their uses, limitations, and dangers often, and legitimately, prescribe them, and thus used they are

¹ The publishers announce this chapter as prepared independent of Dr. Winslow or any of the Advising Editors. Considered as an effort to give helpful information, free of advertising on the one hand and sensational exposures on the other, the article meets with the approval of conservative physicians. But the problems dealt with are too involved at present for discussion direct from the profession to the public.

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the safest and most useful of all drugs and compounds of this class.

A Nostrum.—The Century Dictionary defines a nostrum as “a medicine the ingredients of which, and the methods of compounding them, are kept secret for the purpose of restricting the profits of sale to the inventor or proprietor.” Some nostrums have stated, on their label, the names of their ingredients, but not the amount. There has been no restriction upon their manufacture or sale in this country, therefore the user has only the manufacturer’s statement as to the nature of the medicine and its uses, and these statements, in many instances, have been proved utterly false and unreliable.

A Proprietary Medicine is a non-secret compound which is marketed under the maker’s name. This is usually done because the manufacturer claims some particular merit in his product and its mode of preparation, and as these drugs are perfectly ethical and largely used by physicians, it is to the maker’s interest to maintain his reputation for the purity and accuracy of the drug. Familiar instances of this class are: Squibb’s Ether and Chloroform, and Powers & Weightman’s Quinine.

From the above definition it may be seen that the only unreliable medicines are those which are, in reality, nostrums. In regard to all of these medicines the following rules should be observed:

First.—Don’t use any remedy that does not show its formula on the label.

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Second.—No matter what your confidence in the medicine, or how highly recommended it is, consult a physician before using very much of it.

Third.—Take no medicine internally without a physician's advice.

Throughout this chapter the word "patent medicine" will be used in its widely accepted form, in the everyday sense, without regard to its legal definition, and will be held to include any of the above-mentioned classes, unless a direct statement is made to the contrary.

In Germany the contents of patent medicines are commonly published, and in this country, notably in Massachusetts, the State Boards of Health are analyzing these preparations, and making public their findings. In North Dakota a law has been passed which requires that a proprietary medicine containing over five per cent of alcohol, or any one of a number of specified drugs, be labeled accordingly.

PURE FOOD BILL.—A far-reaching and important step, in the movement for reform of patent medicines and for the protection of the public, has now been taken by the United States Government. On June 30, 1906, an act was approved forbidding the manufacture, sale, or transportation of adulterated, misbranded, or poisonous or deleterious foods, drugs, medicines, or liquors. This act regulates interstate commerce in these articles, and went into effect January 1, 1907. Section 7 of this act states:

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"That for the purposes of this Act an article shall be deemed to be adulterated: in case of drugs:

"*First.* If, when a drug is sold under or by a name recognized in the United States Pharmacopœia or National Formulary, it differs from the standard of strength, quality, or purity, as determined by the test laid down in the United States Pharmacopœia or National Formulary official at the time of investigation; *Provided*, that no drug defined in the United States Pharmacopœia or National Formulary shall be deemed to be adulterated under this provision if the standard of strength, quality, or purity be plainly stated upon the bottle, box or other container thereof although the standard may differ from that determined by the test laid down in the United States Pharmacopœia or National Formulary.

"*Second.* If its strength or purity fall below the professed standard or quality under which it is sold."

Section 8 states that a drug shall be deemed misbranded.

"*First.* If it be an imitation of or offered for sale under the name of another article.

"*Second.* If it (the package, bottle or box) fails to bear a statement on the label of the quantity or proportion of any alcohol, morphine, opium, cocaine, heroin, alpha or beta eucaine, chloroform, cannabis indica, chloral hydrate, or acetanilid, or any derivative or preparation of any such substances contained therein."

What are the motives which impel persons to buy and use patent medicines? The history of medicine offers a partial explanation. In somewhat remote times we find that the medicines in use by regular physicians were of the most vile, nauseating, and powerful nature. We read of "purging gently" with a teaspoonful of calomel. Then during the wonderful progress of scientific medicine, beginning a little more than a half century ago, the most illustrious and use-

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ful workers were so busily engaged in finding the causes of disease and the changes wrought in the various organs, in observing the noticeable symptoms and in classifying and diagnosing them, that treatment was given but scant attention. This was nowhere more noticeable than in Germany, the birthplace, home, and world-center of scientific medicine, to which all the medical profession flocked. Patients became simply material which could be watched and studied. This was an exemplary spirit, but did not suit the patients who wanted to be treated and cured. This fact, together with the peculiar wording of the laws regulating the practice of medicine, which allow anyone with the exception of graduates to treat patients, but not to prescribe or operate upon them, accounts for the number of quacks in Germany.

Dr. Jacobi states that "there is one quack doctor to every two regular physicians in Saxony and Bavaria."¹

Another cause for the use of patent medicines is mysticism. Ignorance is the mother of credulity. It is reported² that Cato, the elder, recommended cabbages as a panacea for all sorts of ills, that he treated dislocations of the limbs by incantations, and ordered the Greek physicians out of Rome. The ignorant are greatly influenced by things that they cannot understand. Therefore, as the mass of people are utterly ignorant of the changes in structure and function of

¹ Jacobi, Jour. Am. Med. Assn., Sept. 29, 1906.

² Ibid.

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the body caused by disease, and also the limitations of medicines in their power of healing such alterations, their belief in the mysterious power said to attach to patent medicines is not surprising. When testimonials of the efficacy of patent medicines purporting to come from respectable divines, merchants, and statesmen are offered, the proof of their power seems incontestable.

Economy and convenience are added incentives to the employment of patent medicines. This method of saving the doctor's fee is engendered by those physicians who themselves write prescriptions for nostrums. "Why not, indeed, eliminate this middleman (the doctor) and buy the nostrums direct?" So say the unthinking. But what doctor worthy of the name would prescribe a medicine the composition of which he was ignorant? Yet it is frequently done. As Dr. Cabot has so aptly put it, what would be thought of a banker or financial adviser who recommended his client to buy a security simply on the recommendation of the exploiter of the security? Yet that is exactly the position of a doctor who recommends a nostrum.

In view of the fact, therefore, that persons of undoubted intelligence are in the habit of purchasing and using remedies of this character and since many of the most widely advertised preparations are extremely harmful, even poisonous, we have taken the liberty of pointing out a few "danger signals," in the guise of extravagant assertions and impossible claims, which

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are characteristic signs of the patent medicines to be avoided.

DANGER SIGNALS.—There are many picturesque and easily grasped features in the literature, labels, and advertising of patent medicines that spell danger. When these features are seen, the medicine should be abandoned immediately, no matter what your friends tell you about it, or how highly recommended it may have been by others than your physician.

Claiming a Great Variety of Cures.—Perhaps of all features of patent medicine advertising, this is the most alluring. No one drug or combination of drugs, with possibly one or two exceptions, can or does "cure" any disease. Patients recover only when the resistance of the body is greater than the strength of the disease. This body resistance varies in different persons, and is never just alike in any two individuals or illnesses. The patient must be treated and not the disease, so it is the aim of every conscientious physician to conserve and strengthen the vital forces and, at the same time, guard against further encroachment of the disease. There is no cure-all, and even if a drug or combination of drugs were helpful in any single case, they might easily be totally unsuited, or even harmful, in another case, with apparently similar symptoms. When a maker claims that his particular concoction will cure a long list of diseases, the assertion bears on its face evidence of its falsity.

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One of the most widely advertised and largely sold catarrh remedies claims to cure pneumonia, consumption, dyspepsia, enteritis, appendicitis, Bright's disease, heart disease, canker sores, and measles. *This is absolute fraud.* No matter what virtues this medicine might have in the treatment of one or two ailments, no one remedy could possibly be of service in such a varied list of diseases, and it could not "cure" one of them.

Another remedy bases its assertion of "cures" on the fact that it claims to be a germ killer, and assumes that all disease is caused by germs. To quote from its advertising literature, it claims to cure thirty-seven diseases which are mentioned by name, and then follows the assertion that it cures "all diseases that begin with fever, all inflammations, all catarrhal contagious diseases, all the results of impure or poisoned blood. In nervous diseases—acts as a vitalizer, accomplishing what no drugs can do." It would seem that an intellect of any pretensions would recognize the fraudulent nature of this claim, yet thousands of bottles of this stuff are annually sold to a gullible public. These wide and unjustifiable claims are real danger signals, and any medicine making them should be avoided. There are many other remedies for which just as great claims are made; the two instances cited are merely representative of a large class. It is a waste of time, money, and health to buy them with any idea that they can fulfill their pretensions.

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Claiming to Cure Headaches.—The use of any “headache powders” or “tablets” should be avoided, except on the advice of a physician. The presence of pain in the head, or in any other part of the body, may be a symptom of a serious and deep-seated disorder, and it may often be a serious matter to temporize with it. At the best, these “pain relievers” can give only temporary relief, and their use may prove to be dangerous in the extreme. Their action is dependent upon one of the modern coal-tar products, usually acetanilid, because it is the cheapest. But, unfortunately, acetanilid is also the one with the most depressant action on the heart. The danger of headache powders lies in the habit which they induce, because of their quick pain-relieving qualities and their easy procurability, and from overdosage. If a person is otherwise in good health, the use of one headache powder will in all probability do no harm, but the dose should not be repeated without a doctor’s authority. Many deaths have occurred from their continued use, or because of an idiosyncrasy on the part of the taker, but it is their abuse more than their use which has brought upon them such almost universal condemnation. Therefore, while the physician may advocate their use, do not take them without his advice and specific directions as to kind and dosage.

Claiming Exhilaration.—These medicines, by their insidious character, constitute a particularly dangerous variety. They depend, for their effect, upon the

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amount of alcohol that they contain. Many conscientious temperance workers have not only unsuspectingly taken them, but have actually indorsed them. Recently the published analyses of several State Boards of Health and the investigations made by Samuel Hopkins Adams, and published in his series on "The Great American Fraud" have shown that a majority of the "tonics," "vitalizers," and "reconstructors" depend for their exhilarating effect upon the fact that they contain from seventeen to fifty per cent of alcohol; while beer contains only five per cent, claret eight per cent, and champagne nine per cent. Pure whisky contains only fifty per cent of alcohol, yet few people would drink "three wineglassfuls in forty-five minutes"¹ as a medicine pure and simple. The United States Government has prohibited the sale of one of these medicines to the Indians, simply on account of the fact that as an intoxicant it was found too tempting and effective.²

If one must have a stimulant it is better to be assured of its purity. These medicines are not only costly, but contain cheap, and often adulterated, spirits.

Their worst feature is that they often induce the alcoholic habit in otherwise upright people. Commencing with a small dose, the amount is gradually increased until the user becomes a slave to drink. Could the true history of these widely used medicines be written, it would undoubtedly show that many

¹ S. H. Adams, "The Great American Fraud."

² Ibid.

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drunkards were started on their downward career by medicinal doses of these "tonics" and "bracers."

Claiming Pain-relieving or Soothing Qualities.—The properties of this class of remedies depend generally upon the presence of cocaine, opium, or some equally subtle and allied substance. It should be needless to state that such powerful drugs should be taken only upon a physician's prescription. Habit-forming and insidious in character, they are an actual menace. When present in cough syrups, they give by their soothing qualities a false sense of security, and when present in "soothing syrups" or "colic cures" for babies, they may be given with fatal result. Never take a medicine containing these drugs without a full understanding of their dangerous character, and a realization of the possible consequences.

Testimonials.—These may mean anything or nothing; generally the latter. They are usually genuine, but, as Mr. Adams observes, "they represent, not the average evidence, but the most glowing opinions which the nostrum-vender can obtain, and generally they are the expression of a low order of intelligence."¹ It is a sad commentary on many men and women, prominent in public life, that they lend their names and the weight of their "testimony" to further the ends of such questionable ventures. Political and newspaper interests are responsible for the collection of this class of testimonials. An investigation of some men,

¹ S. H. Adams, "The Great American Fraud."

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who permitted the use of their names for this purpose, revealed that many of them had never tasted the compound, but that they were willing to sign the testimonials for the joy of appearing in print as "prominent citizens."¹ "Prominent ministers" and "distinguished temperance workers" are often cited as bearing testimony to the virtues of some patent medicine. It has been shown that, while the testimonials were real, the people who signed them had little right of credence, and were possessed of characters and attributes which would show their opinions to be of little value. Money and energy can be productive of any number of testimonials for any remedy. While some of them may be authentic, yet the fact that a medicine "cured" any one of the signers is no evidence that it will cure or even help anyone else. Many people recover from diseases with no medicine at all, and isolated "cures" can never be taken as a criterion of the value of any remedy or method.

Offering "Money Back Unless Cured."—Careful reading of this clause in most advertising literature will show that there is "a string attached." The manufacturers are usually safe in making this proposition. In the first place, the average person will not put the matter to a test. The second reason why this is a safe proposition for the maker is, that if the medicine does not cure, the patient may die, and dead men are hardly possible claimants.

¹ S. H. Adams, "The Great American Fraud."

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Claiming to Cure Diseases Incurable by Medicine Alone.—Probably no class of people are greater users of patent medicines than those unfortunates afflicted with the so-called incurable diseases. The very fact of the serious nature of their complaint, and the dread of surgical intervention, makes them easy victims to the allurements of “sure cures.”

The committee on the prevention of tuberculosis of the Charity Organization Society of New York City has announced in decided terms that there is no specific medication for consumption. Cancer, likewise, cannot be cured by the use of internal medicine alone. Surgery holds out the greatest hope in this dread disease. The medicines claiming to cure these diseases are, therefore, of the most fraudulent nature. Their use is positively harmful, for in taking them priceless time is lost.

Never temporize if there is any suspicion of the existence of such diseases as consumption or cancer. Self-treatment with patent medicines in such cases is worse than useless—it is actually dangerous to life itself. Consult a physician at the earliest possible moment, and put no faith in patent medicines.

There are, however, as has been pointed out, certain patent and proprietary medicines which may properly be employed by the physician. These include the newly discovered, manufactured chemicals of known composition and action; and single substances or combinations of known drugs in known proportions, which

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can only be made to best advantage by those having the adequate facilities. The habit of prescribing proprietary mixtures of several substances for special diseases is, however, generally a matter of laziness, carelessness, or ignorance on the doctor's part. This follows because no disease is alike in any two patients; because any one disease has many phases and stages; and because a doctor should always treat the patient and not the disease. Thus a doctor, after carefully questioning and examining the patient, should adjust the remedy to the peculiarities of the patient and disease. It is impossible to make a given combination of drugs fit all patients with the same disease.

The quantity of patent medicine sold in the United States is enormous. A series of articles by Samuel Hopkins Adams appeared in *Collier's Weekly* during 1905 and 1906, in which he not only showed the fraudulent character of many of the best-known patent medicines, giving their names and most minute details concerning them, but furnished much reliable information in an interesting and convincing manner. In the course of these articles he pointed out that about one hundred millions of dollars are paid annually for patent medicines in the United States. As explaining this, in part, he affirmed that as many as five companies each expended over one million dollars annually in advertising patent medicines.

What Are the Good Ones Good For?—In any

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great movement, when a dormant public suddenly awakens to the fact that a fraud has been perpetrated or a wrong committed, the instinctive and overwhelming desire is for far-reaching reform. In efforts to obtain needed and radical improvement, and with the impetus of a sense of wrong dealing, the pendulum of public opinion is apt to swing too far in an opposite direction. There are bad patent medicines—the proof of their fraudulent character is clear and overwhelming; but there are good ones whose merits have been obscured by the cloud of wholesale and popular condemnation. It is true that the manufacturers of even some of the valuable ones have an absurd habit of claiming the impossible. This attitude is to be regretted, for the makers have thus often caused us to lose faith in the really helpful uses to which their products might be put.

However, it is well in condemning the bad not to overlook the good. The mere fact that a medicine is patented, or that it is a so-called proprietary remedy, does not mean that it is valueless or actually harmful. The safety line is knowledge of the medicine's real nature, its uses and its dangers; the rules given above should be rigorously followed.

It is far easier to give general indications for the guidance of those wishing to shun unworthy patent medicines than to enable the reader to recognize the worthy article. It is safe to assume, however, that there are certain simple remedies, particularly those

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for external application, which have a definite use and are dependable. In justice it must be said that great improvement has taken place, and is now taking place in the ethical character of patent medicines, owing to recent agitation, and what is true concerning them to-day may not be true to-morrow.

The only proper, ethical patent medicine is the one showing its exact composition, and refraining from promise of a cure in any disease. Such a one might, nevertheless, advertise its purity, reliability, advantageous mode of manufacture, and the excellence of its ingredients with more modest and truthful claims as to its use.

The purchaser of a patent medicine pays not only for the ingredients, the cost of combining them, and the maker's just profit, but he also pays the exploiter's bills for advertising and distributing the finished product. With such standard remedies as those mentioned above, this added cost is usually a good investment for the purchaser, because trade-marked remedies which have "made good" possess two advantages over those less advertised, and over their prototypes in crude form: procurability and integrity.

Even at remote cross-roads stores, it is possible to obtain a popular remedy, one which has been well pushed commercially. And an article sold in packages sealed by the makers gets to the consumer just as pure as when it left the laboratory. This is not always true of ingredients held in bulk by the retailer; witness the

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evidence brought forward in recent prosecutions for drug adulteration.

It is not the purpose of this chapter, in any sense, to advertise or place the seal of its unrestricted approval upon any one article of a class. Its position in the matter is absolutely impartial. But in order that it may be as helpful as possible, it definitely mentions the most widely known, and therefore the most easily obtainable, remedies. There are other equally good remedies in each case, but as it would be almost impossible to mention each individual remedy with similar virtues now on the market, the ones discussed must be taken as representative of their class in each instance.

Do not forget that the use of these simple remedies does not justify their abuse. They may make great claims while their use is really limited. Do not rely upon them to do the impossible.

Vaseline.—This is pure and refined petroleum, and will be found of much service in many forms of skin irritation. It is useful in the prevention of "chapping," for softening rough skin, for preventing and healing bleeding and cracked lips, as a protective dressing in burns, cuts, or any acute inflammation of the skin where the cuticle has been injured or destroyed, or where it is desirable that a wound should be protected and kept closed from the air. Rubbed over the surface of the body when a patient is desquamating or "peeling" after scarlet fever or measles, it keeps the skin smooth, soothes the itching, and prevents the

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scales from being carried about in the air and so infecting others. Vaseline is a soothing, nonirritating, and bland protective ointment for external use. It is perfectly harmless, but should not be used for severe skin disease or for internal use, unless recommended by a physician in conjunction with other means of healing.

Pond's Extract.—Although the makers have claimed special virtues for this remedy, it is in reality an extract of hamamelis or witch-hazel, and probably differs little in its application or results from the ordinary marketed extract made by the average druggist. It is mild and bland, harmless when used externally, but should not be used internally unless ordered by a physician. It is soothing and healing when applied to wounds, sprains, and bruises; diluted with water it is a pleasant gargle for a sore throat, and may be applied externally on the throat by means of a flannel wrung out in a solution of it in hot water. For nose-bleed it is often efficient when snuffed up the nose, or when pledgets of cotton are soaked in it and placed in the nostrils. It may be used as an application in ulcers or varicose veins, and from two to four teaspoonfuls with an equal amount of water injected into the rectum two or three times daily will often prove of great help in piles, particularly if bleeding. It gives relief when used for sore or inflamed eyes or eyelids, but in this, as in all other serious inflammations, it is not a "cure all," and the physician should be consulted if the relief is not prompt.

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Listerine.—Of the many mild liquid antiseptics “Listerine” is probably the best known. The remarks and recommendations concerning it, however, are equally applicable to many other remedies of a somewhat similar nature, such as glycothymoline, boro-lyptol, lythol, alkalol, formalid, etc.

Listerine is a solution of antiseptic substances with the addition of thymol and menthol in quantities sufficient to give it a pleasant odor and taste. It has a very strong hold on the public, and is a deservedly useful remedy.

Listerine has many helpful uses. It is potent enough to kill many germs, and is excellent for this purpose when used as a mouth wash, particularly during illness. In acute cold in the head it is soothing to the mucous membrane of the nose, if used diluted with warm water as a nasal douche. It serves a similar purpose when used as a gargle in mild sore throat.

If there is any reason to suspect that dirt or other foreign matter has come in contact with a sore or cut, the wound may be freely washed with a solution of listerine in order to clean it and render it as nearly aseptic as possible. When there are distinct signs of inflammation it should not be relied upon. Do not use it internally without a physician's advice.

Scott's Emulsion.—This is a good emulsion of cod-liver oil, widely prescribed by physicians for the many patients who are too delicate-stomached to retain the

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pure oil. For those who can take the refined oil straight, Peter Möller's brand is in a class by itself.

In certain conditions cod-liver oil is one of the most valuable remedies known. As a concentrated and re-constructive food in many wasting diseases it is of great service. Weak and puny children, and all suffering from malnutrition may take it with benefit. It does help produce flesh, increase strength, and add to the body's resisting powers. It does not contain any medicinal properties, and its virtue is largely in its fat or oil, but as an aid to other remedies, or alone, when increased nutrition is desired, it is a reliable and helpful remedy.

Antiphlogistine.—There are many clay poultices on the market: antiphlogistine, antithermoline, creta-methyl, sedol, unguentum, yorkelin, and the Emplastrum Kaolini of the U. S. Pharmacopœia. Antiphlogistine, being probably the most widely known, is here discussed. It is of value when a poultice is indicated. It is preferable to the homemade varieties in that it retains heat for a longer period of time and is antiseptic.

It should never be used in deep-seated inflammations, such as peritonitis, appendicitis, deep abscesses of any part of the body, or other serious conditions, unless recommended by a physician; for such ailments need more thorough treatment than can be afforded by any poultice. It is perfectly harmless, and may be used with decided benefit in aborting or preventing many inflammatory diseases. Applied in the early

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stages of a boil, felon, or carbuncle it may either abort the trouble or, if the disease has already progressed too far, it will hasten suppuration and shorten the course of the disease. When a poultice is indicated in bronchitis or pleurisy it is an excellent one to use; it will afford much comfort, and often hasten recovery. In nursing mothers, when the breasts become full and tender and signs of beginning inflammation are present, antiphlogistine spread in a warm and thick coat over the breasts will often afford relief.

Platt's Chlorides.—When it is desirable to use a liquid disinfectant Platt's Chlorides will be found a useful article, as will lysol and other marketed products. The source of a foul smell or dangerous infection should never be overlooked. No disinfectant can offer a safeguard if plumbing is defective, or other unsanitary conditions exist; in fact, disinfectants are often deprecated, since they afford a false sense of security. If a contagious disease exists in a household, other means than the use of a disinfectant must be taken in order to prevent the spread of the contagion. Disinfectants do have their uses, however, and are often essential. In case of an illness of a contagious or infectious nature, a solution of Platt's Chlorides or a similar disinfectant should be kept in all vessels containing or receiving discharges from the body. Pails containing such a solution should be in readiness to receive all cloths, bedding, or washable clothes which have come, in any way, in contact with the patient.

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